University of Alberta

The Relationship Between Perfectionism and Performance-Slump Coping in Female Intercollegiate Volleyball

by

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Abstract

This thesis examined the relationship between athletes' perfectionist orientations in sport and the coping strategies they used to deal with a performance slump. A sample of 137 female intercollegiate varsity volleyball players (M age = 19.94 years, SD = 1.67) completed self-report measures of perfectionism, coping-strategy use, perceived coping effectiveness, and worry. Canonical correlation (R_C) analysis produced canonical variates that resembled healthy and unhealthy profiles of perfectionism. The healthy perfectionism variate was significantly correlated (R_C = .663) with a problem-focused pattern of coping and low levels of worry. The unhealthy perfectionism variate was significantly correlated (R_C = .544) with emotion-focused and avoidance-type coping strategies and higher levels of worry. Another canonical correlation analysis revealed a significant relationship (R_C = .565) between a healthy profile of perfectionism and heightened perceptions of coping effectiveness. Results are discussed within the context of Hamachek's (1978) conception of adaptive and maladaptive perfectionism.

Table of Contents

Chapter 1	Page
Introduction	1
Chapter 2	
Method	29
Participants	29
Instruments	
Sport-Multidimensional Perfectionism Scale-2 (Sport-MPS-2).	29
Modified-COPE (MCOPE).	31
Procedures	
Chapter 3	
Results	37
Preliminary Psychometric Analyses	37
Additional Data Screening	40
Bivariate Correlations	43
Multivariate Relationships Between Perfectionism and Coping	47
Perfectionism and coping frequency.	48
Perfectionism and coping effectiveness.	52
Chapter 4	
Discussion	55
Chapter 5	
General Discussion and Future Directions	80

Table of Contents (Continued)

Chapter 6	Page
References	90
Appendices	
A. Demographic Questionnaire	106
B. Sport-Multidimensional Perfectionism Scale-2	107
C. Modified-COPE	110
D. Correlations Between Sport-MPS-2 Subscales	117
E. Correlations Among and Between MCOPE Frequency and Effectiveness Subscales	118

List of Tables

Table 1. Page

Subscale Item Means, Standard Deviations, and Internal Consistencies (α) for all Measures 41

Table 2.

Correlations Between Sport-MPS-2 Subscales and MCOPE Frequency Subscales 44

Table 3.

Correlations Between Sport-MPS-2 Subscales and MCOPE Effectiveness Subscales 46

Table 4.

Skewness and Kurtosis Values for all Retained Sport-MPS-2 and MCOPE Subscales 49

Table 5.

Canonical Loadings of Perfectionism and Coping Frequency 51

Table 6.

Canonical Loadings of Perfectionism and Coping Effectiveness 54

List of Figures

Figure 1 Page

Scree plot of eigenvalues following principal axes analysis of M-COPE worry frequency items. 38

Figure 2

Scree plot of eigenvalues following principal axes analysis of M-COPE worry effectiveness items. 39

Chapter 1

Introduction

The personality trait of perfectionism has been recognized as an important characteristic to examine among competitive athletes (Anshel & Eom, 2003; Flett & Hewitt, 2005) given that it has been associated with a wide variety of both functional and dysfunctional correlates in sport. For example, Gould, Dieffenbach, and Moffett (2002) recently identified an adaptive profile of perfectionism among a sample of 10 U.S. Olympic Gold medalists. Similarly, Dunn, Causgrove Dunn, and Syrotuik (2002) identified an adaptive profile of perfectionism that was associated with a strong task orientation (Nicholls, 1989) among a sample of 178 high performance male teenage Canadian Football players. Hardy, Jones, and Gould (1996) even speculated that "many of the most effective world class athletes are perfectionist in their orientations" (p. 243).

In contrast to the apparent functional nature of perfectionism in sport, research has also shown the potentially destructive nature of perfectionism within athlete populations. For example, certain maladaptive dimensions of perfectionism have been associated with burnout in junior tennis players (Gould, Udry, Tuffey, & Loehr, 1996), heightened pre-competitive anxiety in teenage cross country runners (Hall, Kerr, & Matthews, 1998), lowered self-esteem in collegiate level athletes (Gotwals, Dunn, & Wayment, 2003), negative attitudinal body image in female figure skaters (Dunn, Craft, & Causgrove Dunn, 2006), and heightened anger in male teenage Canadian football players (Dunn, Gotwals, Causgrove Dunn, & Syrotuik, 2006) and male teenage hockey players (Vallance, Dunn, & Causgrove Dunn, 2006).

Early accounts of perfectionism depict a very destructive and unhealthy

personality trait. For example, Missildine (1963) proposed that perfectionists may achieve goals that would be acceptable to 'ordinary people,' however, these accomplishments bring no lasting satisfaction to perfectionists because they constantly feel that they can, and must, do better. As such, Missildine argued that perfectionists gain little pleasure from their accomplishments and fail to enhance their self-esteem through their achievements.

Burns (1980) also emphasized that perfectionists tend to view themselves in a negative way, and argued that perfectionists are often overly critical of their attempts to achieve the high standards they set for themselves. Burns stressed the distinction between individuals who pursue excellence in a healthy manner and take genuine pleasure in the process of working towards these high standards, compared to perfectionists who only measure their self-worth in terms of the outcome of their performance attempts. According to Burns, these self-defeating perfectionists are trapped by "self-critical ruminations that lead to depression and an unrealistically negative self-image" (p. 38). Such individuals will also have a strong fear of making mistakes and view any mistakes as a threat to their self worth.

Similar to Burns (1980), Pacht (1984) viewed perfectionism as a widespread and debilitative personality trait that was linked to psychological and physical problems such as depression, anorexia, obsessive compulsive personality disorder, and various psychosomatic disorders. The descriptions of the destructive nature of perfectionism given by Missildine (1963), Burns (1980), and Pacht (1984) represent the views of many perfectionism theorists at the time. Indeed, there are a number of contemporary perfectionism theorists who still maintain this view (e.g., Flett & Hewitt, 2002, 2005;

Hall, 2005). However, over the past three decades, numerous perfectionism theorists and researchers have conceptualized perfectionism as a dichotomous personality trait that has potentially functional/healthy and dysfunctional/unhealthy consequences.

Hamachek (1978) is generally credited as being the first perfectionism theorist to explicitly distinguish between what he called normal perfectionism (i.e., adaptive/healthy perfectionism) and neurotic perfectionism (i.e., maladaptive/unhealthy perfectionism). According to Hamachek, healthy perfectionists are likely to experience fewer negative feelings in the pursuit of their achievement goals in comparison to unhealthy perfectionists who are likely to encounter more potentially destructive emotions in these pursuits.

Hamachek (1978) theorized that healthy perfectionists are motivated to strive to do their best on tasks and are relatively free from destructive fears about making mistakes. Individuals who demonstrate healthy perfectionist tendencies set high standards for personal achievement but are not preoccupied or overly concerned with mistakes they might make in the pursuit of these goals (see Bieling, Israeli, & Antony, 2004; Frost, Marten, Lahart, & Rosenblate, 1990; Stoeber & Otto, 2006). In fact, these individuals derive a real sense of satisfaction from doing a job to the best of their ability, even if flawless (i.e., error free) performance is not attained (Hamachek).

In contrast to healthy perfectionists, Hamachek (1978) proposed that unhealthy perfectionists rarely find satisfaction in their achievements and almost always find ways in which to criticize their personal accomplishments. As such, unhealthy perfectionists are driven by a fear of failure and are highly self-critical of their performance attempts (Burns, 1980; Hamachek, 1978; Missildine, 1963). Burns further argued that unhealthy

perfectionists have a tendency to view mistakes as an unacceptable part of the performance process and Tangney (2002) suggested that these individuals often experience shame or embarrassment following perceived failure. Hamachek concluded that personal performance levels are never good enough for unhealthy perfectionists because these individuals almost always feel like "they should—and could—do better" (p. 27). This attitude that their performance must be perfect has potentially destructive implications for athletes in sport where flawless performance is rarely, if ever, attained.

The distinction between healthy and unhealthy forms of perfectionism in sport has received attention by sport psychologists over the past 15 years. Indeed, Bunker, Williams, and Zinsser (1993) summed up the difference between healthy and unhealthy perfectionism for athletes when they stated that "there is always value in *striving* for perfection, but nothing is gained by *demanding* perfection" (p. 236). Similar views on healthy versus unhealthy perfectionist approaches to sport have also been raised by other sport psychologists (e.g., Nideffer, 1992; Scanlan, Stein, & Ravizza, 1991). Clearly the sport psychology community is open to the possibility that perfectionist orientations can have positive and negative consequences in sport (see Dunn et al., 2002).

It is now generally accepted that perfectionism is a multidimensional construct (Blatt, 1995; Dunn et al., 2002; Flett & Hewitt, 2002, 2005; Frost et al., 1990). Frost et al. (1990) spearheaded contemporary measurement of perfectionism by developing the Frost-Multidimensional Perfectionism Scale (Frost-MPS) which contains six subscales labelled *Personal Standards* (PS), *Concern Over Mistakes* (COM), *Parental Expectations* (PE), *Parental Criticism* (PC), *Doubts About Actions* (DAA), and *Organization* (O). Another widely used measure of perfectionism is the Hewitt Multidimensional

Perfectionism Scale (Hewitt-MPS; Hewitt & Flett, 1991) which contains three subscales labelled *Self-Oriented Perfectionism* (SOP), *Socially Prescribed Perfectionism* (SPP), and *Other-Oriented Perfectionism* (OOP).

Both the Frost-MPS and Hewitt-MPS are global (or domain-free) measures of perfectionism. In other words, the instructions in these instruments do not ask respondents to consider a specific life-context when rating their perfectionist tendencies. This is noteworthy because there is a growing body of evidence to suggest that perfectionism may best be conceptualized and measured as a domain-specific construct (Mitchelson & Burns, 1998; Shafran, Cooper, & Fairbairn, 2002). For example, in a study of 133 male (*M* age = 21.59 years) and 108 female (*M* age = 21.44 years) intercollegiate student-athletes, Dunn, Gotwals and Causgrove Dunn (2005) found that perfectionism levels varied among the sample as a function of the context within which perfectionism was measured. Specifically, levels of perfectionism were different depending on whether this personality trait was being measured within the sport, academic, or global contexts.

A number of sport psychology researchers have also advocated the domain-specific measurement of perfectionism in sport (Anshel & Eom, 2003; Dunn et al., 2002). This prompted Dunn and his colleagues to develop the Sport-Multidimensional Perfectionism Scale (Sport-MPS: Dunn, Causgrove Dunn, Gotwals, Vallance, Craft, & Syrotuik, 2006), which was more recently revised and updated by Gotwals (2006) who re-named the instrument, the Sport-MPS-2. The Sport-MPS-2 contains variations of the subscales contained in the Frost-MPS that reflect personal standards, concern over mistakes, perceived coach pressure, perceived parental pressure, doubts about actions,

and organization. Collectively, the Frost-MPS, Hewitt-MPS, and Sport-MPS-2 measure both intra- and inter-personal aspects of perfectionism (see Blatt, 1995).

Theoretically meaningful relationships have been found between the subscales of the Frost-MPS and the Hewitt-MPS. In particular, strong positive correlations ($rs \geq .61$) have been consistently observed between the personal standards subscale of the Frost-MPS and the self-oriented perfectionism subscale of the Hewitt-MPS (Enns & Cox, 2002). Similarly, strong positive correlations have been observed between the personal standards subscale of the Sport-MPS and the self-oriented perfectionism subscale of the Hewitt-MPS ($rs \geq .66$: Dunn, Causgrove Dunn, et al., 2006). These subscales of the respective instruments measure the core feature of perfectionism: namely, the setting of and striving for the flawless execution of high personal performance standards (Flett & Hewitt, 2002).

In a recent review of perfectionism research, Stoeber and Otto (2006) looked at 35 empirical studies of perfectionism that had examined or conceptualized perfectionism as having both positive and negative forms. Stoeber and Otto specifically reviewed the evidence provided by each study that supported (or refuted) a distinction between positive/healthy and negative/unhealthy perfectionism. On the basis of this review, Stoeber and Otto concluded that healthy perfectionism is reflected in individuals who strive towards attaining challenging goals while remaining relatively untroubled by personal mistakes that occur during the pursuit of these goals. In addition, Stoeber and Otto noted that healthy perfectionists remain relatively unconcerned about what others feel about their personal performance efforts. In contrast, Stoeber and Otto observed that unhealthy perfectionists consistently set excessively high standards of achievement, were

overly concerned about making mistakes, and doubted their personal competence in executing the task in a flawless manner.

Among the studies reviewed by Stoeber and Otto (2006), correlates of healthy perfectionism included positive affect (Bieling, Israeli, Smith, & Antony, 2003; Chang, Watkins, & Banks, 2004; Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Rice & Slaney, 2002), heightened self-esteem (Rice & Dellwo, 2002; Rice & Slaney, 2002), conscientiousness (Enns, Cox, Sareen, & Freeman, 2001; Parker & Stumpf, 1995), active coping styles (Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000), and low self-criticism (Grzegorek, Slaney, Franze, & Rice, 2004). In contrast, correlates of unhealthy perfectionism included heightened negative affect (Chang et al., 2004), low self-esteem (Rice & Dellwo, 2002; Rice & Slaney, 2002), avoidant coping (Dunkley et al., 2000) and heightened levels of depression (Frost et al., 1993). Stoeber and Otto found only one study that did not provide any evidence that supported the distinction between healthy and unhealthy perfectionism and concluded that there is considerable empirical evidence supporting the distinction between a healthy form of perfectionism and an unhealthy one (see also Blankstein & Dunkley, 2002).

An example of a study that investigated the distinction between healthy and unhealthy perfectionism was conducted by Bieling et al. (2002). These researchers compared factor analytic models of perfectionism dimensionality in a sample of 198 undergraduate students who completed the Frost-MPS and the Hewitt-MPS. Confirmatory factor analytic techniques indicated that a two-factor model (representing healthy and unhealthy aspects of perfectionism) provided a better fit for the data than a single-factor model of perfectionism. The first factor represented healthy perfectionism

and was labelled 'positive strivings'; the factor was composed of Hewitt and Flett's (1991) self-oriented perfectionism and other-oriented perfectionism subscales and Frost et al.'s (1990) personal standards and organization subscales. The second factor represented unhealthy perfectionism and was labelled 'maladaptive evaluation concerns'; the factor contained Hewitt and Flett's socially prescribed perfectionism subscale and Frost et al.'s concern over mistakes, doubts about actions, parental criticism and parental expectations subscales. Overall, Bieling et al. advocated for a distinction between healthy and unhealthy perfectionism and stressed its importance in future research.

A key aspect of studies that have attempted to differentiate between adaptive and maladaptive forms of perfectionism pertains to the studies' treatment of all perfectionism dimensions/subscales simultaneously during the data analysis phases of the research. In other words, the healthy or unhealthy nature of perfectionism seems to become most evident when *patterns* of scores across all perfectionism dimensions are examined, rather than treating each perfectionism dimension independently (Stoeber & Otto, 2006). To this end, many researchers in sport and non-sport settings have adopted this approach using statistical procedures such as canonical correlation analysis (e.g., Dunn et al., 2002; Dunn, Gotwals et al., 2006) and cluster analysis (e.g., Parker, 1997; Rice & Mirzadeh, 2000; Rice & Slaney, 2002; Vallance et al., 2006). Interestingly, many of these studies have shown that holding high personal standards is not dysfunctional in and of itself.

As noted previously, at the core of most definitions of perfectionism is an individual's quest to achieve flawless performance in the pursuit of high personal standards (Hewitt & Flett, 2002). However, the functional nature of high personal standards or self-oriented perfectionism is ambiguous because empirical research has

shown that these dimensions of perfectionism have been associated with both adaptive/healthy correlates and maladaptive/unhealthy correlates in the extant literature (see Enns & Cox, 2002, for a review). To address this issue, the functional nature of high personal standards or self-oriented perfectionism appears to become more apparent when scores on other dimensions of perfectionism are simultaneously considered. Indeed, research in the field of sport psychology has been particularly useful in this regard. For example, Dunn et al. (2002) measured the relationship between multidimensional perfectionism and goal orientations in a study of 174 teenage male Canadian football players. Levels of perfectionism were assessed using a sport-specific measure of perfectionism (i.e., the Sport-MPS) and goal orientations were measured using the Task and Ego Orientations in Sport Questionnaire (Duda & Nicholls, 1992). Canonical correlation analysis revealed a perfectionism variate that was defined by a meaningful positive loading (.456) on the personal standards subscale of the Sport-MPS and meaningful negative loadings on the concern over mistakes (-.524), perceived coach pressure (-.439), and perceived parental pressure subscales (-.619). This perfectionism profile was correlated with a strong task orientation (Nicholls, 1989) and was subsequently labelled as adaptive perfectionism. In contrast, a second perfectionism variate was retained in the canonical correlation analysis which contained a positive loading (.855) on the personal standards subscale and positive loadings on the concern over mistakes (.642), perceived coach pressure (.723), and perceived parental pressure subscales (.379). This perfectionism variate was correlated with a strong ego orientation (Nicholls, 1989) and was deemed to reflect a maladaptive profile of perfectionism.

In a more recent study, Dunn, Craft et al. (2006) examined the relationship

between multidimensional perfectionism and attitudinal body image in a sample of 121 competitive female figure skaters (*M* age = 14.46 years, *SD* = 3.48). The Sport-MPS (Dunn, Causgrove Dunn et al., 2006) was used to measure athletes' levels of perfectionism while attitudinal body image was assessed using both the Multidimensional Body-Self Relations Questionnaire-Appearance Scale (Cash, 2000a) and the Body Image Ideals Questionnaire (Cash, 2000b). Two significant canonical functions were extracted from a canonical correlation analysis, the first of which revealed a perfectionism variate that was defined by a meaningful positive loading (.816) on the personal standards subscale of the Sport-MPS as well as positive loadings on the concern over mistakes (.930), perceived coach pressure (.556), and perceived parental pressure subscales (.459). This perfectionism profile was positively correlated (R_C = .63) with a pattern of body image loadings that reflected an unhealthy attitude toward an athlete's own body. Consequently, the perfectionism variate was deemed to reflect an unhealthy perfectionist orientation. Similar to the first perfectionism variate, the personal standards subscale had a positive loading (.559) on the second perfectionism variate. However, unlike the pattern of loadings in the first canonical function, the second perfectionism variate was comprised of negative loadings on the concern over mistakes (-.335), perceived coach pressure (-.476), and perceived parental pressure subscales (-.336). This perfectionism variate was positively correlated (R_C = .44) with a pattern of body image loadings that reflected a healthy orientation towards an athlete's own body. This second perfectionism variate was therefore deemed to reflect a healthy profile of perfectionism.

Hall et al. (1998) also used canonical correlation to examine the relationship between performance-related anxiety, multidimensional perfectionism, and achievement

goal orientations. A survey of 119 male and female high-school student-athletes who competed in a cross-country race was conducted prior to the competitive meet. As part of this study, athletes completed the Perceptions of Success Questionnaire (POSQ: Roberts & Balague, 1989) as the measure of achievement goal orientations and Frost et al.'s (1990) Multidimensional Perfectionism Scale. The first canonical function that was extracted revealed a profile of unhealthy perfectionism. The perfectionism variate was characterized by a strong positive loading on the personal standards subscale (.922) together with positive loadings on the dysfunctional perfectionism subscales reflecting concern over mistakes (.761), parental criticism (.599), and parental expectations (.733). This unhealthy orientation was found to be related to a very high ego orientation and a moderate task orientation.

In another study that employed canonical correlation in an effort to consider all perfectionism scores simultaneously, Gotwals et al. (2003) examined the relationship between perfectionism and self-esteem in a sample of 87 male and female intercollegiate athletes. Athletes completed the Frost-MPS (Frost et al. 1990), Rosenberg's (1965) Self Esteem Scale (RSES), and a sport-specific version of the State Self-Esteem Scale (SSES: Heatherton & Polivy, 1991). One significant function was extracted from the canonical correlation analysis and the perfectionism variate was deemed to reflect maladaptive perfectionism. The perfectionism profile reported by Gotwals et al. was defined by meaningful positive loadings on concern over mistakes (.762), doubts about actions (.792), and parental criticism (.393), and was positively correlated (R_C = .74) with a canonical variate that reflected low self-esteem.

Although the aforementioned studies by Hall et al. (1998) and Gotwals et al.

(2003) did not provide evidence for potentially adaptive correlates of high personal standards, the studies were useful in highlighting profiles of maladaptive or unhealthy perfectionism. In contrast, the potentially adaptive role of high personal standards was seen in a study by Gould et al. (2003) who examined perfectionist orientations in a sample of 10 U.S. Olympic gold medalists. Athletes completed the Frost-MPS to measure perfectionist orientations. The researchers observed a profile of perfectionism (based on mean subscale scores) that was made up of moderate to high personal standards and organization scores, and low mean scores on the typically maladaptive Frost-MPS subscales (i.e., concern over mistakes, parental expectations, parental criticism, and doubts about actions). Gould et al. concluded that this pattern of scores likely resembled a profile of adaptive perfectionism because it fit with other profiles of adaptive perfectionism that had been previously identified in the literature (e.g., Parker, 1997; Rice & Mirzadeh, 2000). Moreover, because the profile existed among Olympic champions (who had won a combined total of 32 Olympic medals), it seems reasonable to suggest that these athletes would not have achieved their Olympic success had they possessed dysfunctional perfectionist orientations.

Recent work by Dunn and his colleagues (i.e., Dunn, Gotwals et al., 2006; Vallance et al., 2006) has continued to examine perfectionism in sport by considering all perfectionism subscales simultaneously. Notably, results from these studies have shown that a pattern of high scores across all dimensions of the Sport-MPS (i.e., personal standards, concern over mistakes, perceived parental pressure and perceived coach pressure) is typically associated with a heightened disposition to experience anger in sport, especially in situations where mistakes occur. These findings made strong

theoretical sense because high scores across all four subscales resemble a profile of maladaptive perfectionism (Dunn et al., 2002). Given that maladaptive perfectionists view mistakes as an unacceptable part of the performance process (Hamachek, 1978) and because maladaptive perfectionists are driven by a need to avoid any public display of imperfection (Blatt, 1995), they understandably react with anger to mistakes because they feel that the mistake "should not" have happened. In other words, the public display of imperfection (i.e., publicly viewed mistakes during performance) becomes an extremely stressful experience for maladaptive perfectionists. As a consequence of this apparent emotional and psychological vulnerability to mistakes, it seems reasonable to speculate that athletes with unhealthy perfectionist tendencies would be especially threatened by prolonged declines in their personal sport performance. In sport, this commonly occurring situation is often referred to as a performance slump.

Performance slumps are extremely challenging for any athlete, and are generally encountered at some point in most athletes' sporting careers (Goldberg, 1998). A slump can be defined as an unexpected decline in personal performance where normal performance standards could not be reached (Taylor, 1988). This definition is constrained to performances that are below the individual's average performance level and are prolonged for a period of time that exceeds any normal cyclic variation in performance levels (Goldberg, 1998; Taylor, 1988). The cause of the slump can sometimes be traced to faulty strategy, technique, or physical and/or mental preparation. However, there are times when there is no apparent cause for the prolonged decline in performance. For some athletes the slump may last a few days, whereas for others it may last a few weeks or even months. These drops in performance often bring about feelings of frustration,

anxiety, and confusion for both athletes and coaches. Therefore, the ability of athletes to cope with and recover from a performance slump is of paramount importance if they are to return to their previous levels of performance and to facilitate their psychological and emotional well-being.

Coping represents an individual's cognitive, affective and behavioural efforts to manage specific external and internal demands (Crocker, Kowalski, & Graham, 1998; Lazarus, 1991). Two general categories of coping strategies have traditionally been used to describe qualitatively different methods of dealing with situational demands. *Emotion-focused* coping involves strategies that help manage emotional arousal levels and feelings of distress caused by the demands of the situation (Lazarus & Folkman, 1984). *Problem-focused* coping refers to cognitive and behavioural efforts that are used to change the problem that is causing the distress (Lazarus & Folkman, 1984). Based on this distinction, Lazarus and Folkman developed the Ways of Coping checklist (Folkman & Lazarus, 1985) to measure the types of behaviours individuals use in response to a particular stressful situation. Research that has utilized this inventory, however, has found that responses frequently form several factors as opposed to the two expected factors (e.g., Aldwin, Folkman, Schaefer, Coyne, & Lazarus, 1980; Scheier, Weintraub, & Carver, 1986).

During the development of another instrument to measure coping strategies that people adopt when confronted with stressors—the COPE—Carver, Scheier, and Weintraub (1989) found that the 13 subscales of the COPE could be collapsed into two conceptually distinct clusters that reflected more versus less *effective* ways of dealing with stressful situations. Interestingly, the adaptive/effective cluster of coping strategies

included both problem-focused *and* emotion-focused coping efforts. Thus, Carver et al.'s findings imply that researchers should attempt to consider both the *types* of coping responses that are adopted by individuals and the *effectiveness* of these strategies when examining the coping process. Carver et al. suggested that the more effective coping strategies included active coping, planning, suppression of competing activities, restraint coping, positive reinterpretation and growth, and seeking social support for both emotional and instrumental reasons. In contrast, Carver et al. suggested that coping strategies that were of more questionable value included denial, behavioural disengagement, focus on and venting of emotions, and alcohol use.

Much of the coping literature in sport has examined the positive and negative affective states that are associated with athletes' coping strategies. For example, Crocker and Graham (1995) used a sport-modified version of the COPE—labelled the MCOPE—and examined the relationship between coping strategies and levels of positive and negative affect in a sample of 235 female and male athletes (*M* age = 20.5 years) from a variety of sports. Crocker and Graham modified items in the COPE replacing the word "problem" with the word "performance" as well as adding references to "teammates" and "coaches" in order to make the instrument more contextually relevant to the competitive sport environment. Using this same rationale, Crocker and Graham removed five of the original COPE subscales (restraint coping, mental disengagement, acceptance, positive reinterpretation and growth, and turning to religion) and added three new subscales (to measure self-blame, wishful thinking, and increased effort).

In the context of sport-related stressors, Crocker and Graham (1995) found that problem-focused strategies (such as active coping, planning, increased effort, and

suppression of competing activities) were positively related to positive affect and negatively related to negative affect. Conversely, emotion-focused coping strategies (including social support for instrumental and emotional reasons as well as venting of emotions, disengagement, wishful thinking, and self-blame) all had significant positive relationships with negative affect while disengagement and wishful thinking had significant negative correlations with positive affect. Similar results were reported by Gaudreau, Blondin, and Lapierre (2002) who studied relationships between coping strategies and affect in performance-goal discrepancy (PGD) settings—where PGD settings reflect situations in which athletes perform below their desired levels of performance—in a sample of 62 Canadian male golfers (*M* age = 16.35; *SD* = 1.31). Using the MCOPE inventory, coping was measured at three different times: two hours pre-competition, one hour post-competition, and 24 hours post-competition. Results showed that golfers who had high levels of performance-goal discrepancy were more likely to experience higher positive affect if they used problem-focused active coping/planning during the competition or positive reappraisal after the competition.

Other evidence supporting the potential benefits of adopting problem-focused approaches to coping by athletes has been provided by Gaudreau and his colleagues (Gaudreau & Blondin, 2004a, 2004b). Gaudreau and his colleagues have typically measured coping among athletes with another sport-specific coping measure that has been named the Coping Inventory for Competitive Sport (CICS: Gaudreau & Blondin, 2002) The CICS is comprised of 10 coping strategies that are part of three higher-order coping dimensions. These three coping dimensions reflect task-oriented, distraction-oriented, and disengagement-oriented coping, and mainly focus on the mental strategies

that athletes use to cope during stressful situations in sport.

Using the 'performance-goal discrepancy' framework described previously, Gaudreau et al. (2002, 2004a, 2004b) studied many different correlates of athletes' coping strategies. For example, Gaudreau and Blondin (2004a) examined how athletes with different coping tendencies differed with respect to levels of positive and negative affect and perceptions of control. A total of 151 male athletes (*M* age = 17.41 years) from a variety of sports completed the French version of the CICS (i.e., the ISCCS: Gaudreau & Blondin, 2002). Cluster analysis was used to create subgroups of athletes within the sample who differed in terms of the coping strategies they employed. A four-cluster solution was retained which reflected different coping tendency profiles. The first cluster (labelled HIGH COPE) contained individuals who used frequent amounts of all coping strategies contained in the ISCCS. The second cluster (labelled LOW COPE) contained athletes who reported the least frequent use of all the coping strategies. The third cluster (labelled HIGH TOC) contained athletes who used high levels of task-oriented coping in conjunction with low levels of disengagement coping. The fourth and final cluster (labelled HIGH DOC) contained athletes who used high levels of disengagement coping and low levels of task-oriented coping. When the clusters were compared on external variables, the HIGH TOC group showed higher levels of goal attainment, higher levels of positive affect, lower levels of anger, and higher perceptions of control than the HIGH DOC cluster. This finding lends support to the notion that task-oriented coping may be more constructive in competitive sport situations than disengagement- and distraction-oriented coping when athletes are forced to cope with a performance stressor.

The results of Gaudreau and Blondin's (2004a) study indicate that athletes may differ in the types of coping strategies they typically employ in stressful situations. Given that Gaudreau and Blondin identified clusters of athletes who differed with respect to the typical coping strategies they employed in stressful situations, it would seem like a worthwhile research endeavour to determine whether these coping tendencies are actually influenced by, or associated with, other variables. One such variable that may be associated with the types of strategies that an individual uses to cope with stressful situations is the individual's personality. Indeed, renowned coping theorist Richard Lazarus (1999) appeared to be open to this suggestion when he stated that "within a trait frame of reference, dispositional variables influence the choice of coping strategies either in general, or in particular environmental contexts" (p. 104). Furthermore, relative to the specific context of the current thesis, Eklund, Grove, and Heard (1998) asked whether the personality trait of perfectionism might be associated with the typical coping tendencies of athletes in the context of performance slumps. As will be stated again later, this is the overarching purpose of the present study.

As noted previously, while the examination of coping strategy use in stressful competitive sport settings is an important research endeavour, understanding the *effectiveness* of coping efforts is also important. Given that sport psychology is an applied discipline, athletes, coaches, and sport psychologists need to determine if the predominant coping strategies that are used (or taught) to deal with stressful situations in sport do indeed work for the people who use them. Ntoumanis and Biddle (1998) examined the relationship between the perceived effectiveness of coping and positive and negative affect in a sample of university athletes. Participants were asked to recall a

challenging or stressful aspect of a recent competition and then rate how often they used each of six coping strategies (dimensions) to deal with the situation. The six coping dimensions reflected the degree to which athletes increased effort, mentally distanced themselves from the source of the threat, sought social support for emotional reasons, sought social support for instrumental reasons, suppressed competing activities, behaviourally disengaged, and vented their emotions. To measure coping effectiveness, athletes used a 7-point scale to rate the extent to which each coping strategy was effective in dealing with the situation (1 = *not at all*; 7 = *very much so*). Results indicated that athletes who viewed the use of problem-focused strategies (i.e., increased effort and suppressed competing activities) as effective reported more positive affect and less negative affect than athletes who viewed the use of these same strategies as less effective in dealing with their situation. These results suggest that athletes' perceptions of how well they deal with a stressful situation holds some bearing on their psychological and affective well-being.

Another study that utilized indices of coping effectiveness in the sporting environment was conducted by Kim and Duda (2003). Kim and Duda examined the perceived short-term and long-term effectiveness of coping strategies that were used by athletes in response to individually generated athletic stressors. Athletes were also asked to rate perceptions of personal control over the difficulties they experienced. Short-term coping effectiveness was measured by asking athletes to rate how effective each strategy was in immediately reducing, managing, or countering the problem. Responses were completed on a 5-point scale ranging from 1 (*not effective at all*) to 5 (*very effective*). Long-term coping effectiveness was inferred from athletes' levels of satisfaction with

their career, enjoyment of the sport, and overall desire to continue in their sport. Results showed that the use of active/problem-focused coping strategies (such as planning and cognitive restructuring) was positively correlated with both short- and long-term effectiveness. In contrast, the use of avoidance/withdrawal strategies was only correlated with short-term coping effectiveness. The authors also reported that when athletes perceived that they could enact change within their environment to ameliorate their situation, they were more likely to use active coping and planning strategies, whereas those athletes who felt less control tended to use acceptance and/or denial coping strategies. Overall, these results suggest that the use of active coping strategies combined with an internal sense of control are useful in directly managing the source of competitive stress, which in turn, may have the potential to lead to better long-term adjustment.

Although Holt and Dunn (2004) have shown that athletes are likely to adopt their own idiosyncratic sets of coping behaviours in response to the stressors they confront in performance environments (e.g., a performance slump), personality characteristics (such as perfectionism: Hewitt & Flett, 1996) are still believed to play a role in determining which coping strategies individuals use (Carver et al., 1989; Folkman, 1984; Lazarus, 1999; McCrae & Costa, 1986). For example, Carver et al. (1989) examined the relationship between the 13 subscales of the COPE inventory and a number of personality characteristics among a large sample of undergraduate students. Results showed that trait optimism, self-esteem, hardiness, and type-A behavioural dispositions were all positively associated with the *Active Coping* and *Planning* subscales of the COPE. In contrast, other COPE subscales such as *Denial* and *Behavioural Disengagement* were negatively correlated with optimism, self-esteem, and hardiness. These results suggest that an

individual's personality (or dispositional view of the world) may influence coping strategies that people choose to deal with a stressor. As such, examining coping as a function of personality would seem to be an important area of study (Eklund et al. 1998; Lazarus, 1999; McCrae & Costa, 1986; Scheier et al., 1986).

Is it possible that athletes with different perfectionist orientations differ systematically in terms of their coping responses when dealing with a performance slump? Theoretically, given the sense of shame or embarrassment that maladaptive perfectionists are prone to experiencing following perceived failure (Tangney, 2002)—and bearing in mind that these individuals will likely view a performance slump as a failure that "should not" have been allowed to happen in the first place—it is possible that maladaptive perfectionist athletes may employ avoidance-type coping strategies such as denial or mental disengagement to avoid confronting their perceived failure and associated negative self-evaluative emotions. This type of avoidance coping, while potentially alleviating the emotional stress (or shame or embarrassment) that is associated with the performance slump, does little, if anything, to change the environment or gain control of the situation. Moreover, due to the increased sense of shame or embarrassment that may be experienced, maladaptive perfectionist athletes may be reluctant to approach friends, coaches, or relatives to ask for emotional support (for fear of further embarrassment). In contrast, athletes with adaptive perfectionist orientations do not typically experience the same sense of shame and embarrassment following failure and do not experience the same degree of threat to their self-concept. As such, adaptive perfectionist athletes may be more willing to employ emotional support strategies by seeking help from people in the social environment.

Contrary to the previous argument, it is possible that healthy perfectionists may actually be less likely than unhealthy perfectionists to seek out social support for emotional reasons. Given that healthy perfectionists view mistakes as an inevitable part of the performance process, whereas unhealthy perfectionists are highly threatened by the public display of imperfection, it is possible that healthy perfectionists may be able to focus their coping efforts more towards dealing with the problem than dealing with the negative emotions that ensue during the slump. In other words, healthy perfectionists may use relatively little social support for emotional reasons because they may not experience high levels of negative affect during the slump. In contrast, unhealthy perfectionists may experience very high levels of negative affect/emotion during the slump (because the slump poses such a high degree of threat to their self concept) and may therefore require additional emotional support.

To date, no studies have examined the relationship between perfectionism and coping in the competitive sport environment, and only a few studies have investigated the direct relationship between perfectionism and coping in non-sport settings. Of these studies, most have focused on coping as a moderator between perfectionism and emotional adjustment (e.g., Dunkley et al., 2000; Dunkley, Zuroff, & Blankstein, 2003; O'Connor & O'Connor, 2003). In a study of 443 male and female university students, Dunkley et al. (2000) examined the incidence of daily hassles as it related to individuals' perfectionist orientations. Perfectionism was measured using subscales from the Frost-MPS (Frost et al., 1990) and the Hewitt-MPS (Hewitt & Flett, 1991). Dunkley et al. found that although personal standards perfectionism (as characterized by high scores on personal standards and self-oriented perfectionism subscales) was related to an increase

in daily hassles, personal standards perfectionism was also associated with the tendency to use active (i.e., problem-focused) coping strategies to deal with these hassles. This is an important finding because the combination of high scores on the personal standards and self-oriented perfectionism subscales has been previously associated with positive or healthy perfectionistic strivings (see Frost et al., 1993; Slaney, Ashby & Trippi, 1995). Dunkley et al. also found that individuals who scored high on the socially prescribed perfectionism, concern over mistakes, and doubts about actions subscales—a profile of scores that is typically associated with maladaptive or unhealthy perfectionism—were found to be more likely to use dysfunctional avoidant-type coping. In a subsequent study of 179 male and female university students (*M* age = 20.02, *SD* = 2.28), Dunkley et al. (2003) found that high personal standards scores on the Frost-MPS as well as high concerns over mistakes and high doubts about actions were related to avoidant coping strategies and high levels of self-blame, further highlighting the dysfunctional or unhealthy nature of this combination of perfectionism scores.

In a study of 231 male and female undergraduate students, O'Connor and O'Connor (2003) further extended the work of Dunkley et al. (2000, 2003) and showed that individuals who were high in socially prescribed perfectionism (Hewitt & Flett, 1991) —an unhealthy component of perfectionism—had a tendency to use dysfunctional coping strategies (such as avoidance, denial, and the use of alcohol) in response to daily stressors. These individuals also had higher levels of distress. Notably, avoidance, denial, and the use of alcohol were positively related to heightened levels of hopelessness and psychological distress among the sample. It appears that high concerns about being negatively evaluated by others (as reflected by high scores on dimensions such as socially

prescribed perfectionism, perceived parental pressure, and perceived coach pressure) is associated with the tendency to use dysfunctional coping strategies when an individual's goals are threatened or not attained.

Further support for this position was obtained by Rice and Lapsley (2001) who used the Frost-MPS (Frost et al., 1990) to measure perfectionism and the COPE (Carver et al., 1989) to measure coping strategies in a sample of 204 male and female undergraduate students (*M* age = 20.81 years, *SD* = 3.66). Results of a cluster analysis that was performed on the perfectionism data yielded three different clusters that were labelled non-perfectionists, adaptive perfectionists, and maladaptive perfectionists. The adaptive perfectionists were characterized as having high personal standards and were organized in pursuing these standards, but had few concerns over mistakes, low doubts about actions, and low perceptions of parental criticism. Maladaptive perfectionists, on the other hand, were profiled as having high personal standards, moderate levels of organization, and high scores on the concern over mistakes, parental expectations, parental criticisms, and doubts about actions subscales.

Based upon the students' perfectionist orientations, Rice and Lapsley (2001) found significant differences between the three clusters in terms of the coping strategies they used. Adaptive perfectionists employed functional problem-focused coping strategies (such as active coping and planning) more often than non-perfectionists, and employed fewer dysfunctional coping strategies (in the form of denial, disengagement, and the use of alcohol and drugs) than both maladaptive perfectionists and non-perfectionists. It appears that individuals who are not overly concerned about failure—as is the case with healthy perfectionists (Hamachek, 1978)—may experience less threat and

be less inclined to use dysfunctional avoidant-type coping strategies to cope with stressful situations. In order to examine potential relationships between perfectionism and coping within the sporting domain, the **first purpose of this study** was to determine if different perfectionist orientations/tendencies are differentially related to the types of coping strategies that athletes adopt in performance slumps.

As stated previously, maladaptive perfectionists rarely feel good about their performance endeavours (Burns, 1980), typically feel that they could and should do better (Hamachek, 1978), and frequently doubt the quality of their performance attempts (Frost et al., 1990). Consequently, it seems reasonable to speculate that maladaptive perfectionists (in contrast to adaptive perfectionists) will have a tendency to be overly critical of the coping mechanisms they employ to deal with stressors. In other words, given their self-critical and self-doubting dispositions, theory suggests that maladaptive perfectionists will have a tendency to be less satisfied with their coping attempts and view their coping efforts as less effective than their adaptive perfectionist counterparts (who are less self-critical and less doubting with respect to performance [e.g., coping] endeavours). Thus, **the second purpose of this study** was to determine if different perfectionist orientations are differentially related to athletes' perceptions of coping effectiveness during performance slumps.

The third and final purpose of this study was to examine the degree to which athletes with different perfectionist orientations experience competitive worry during their performance slumps. According to perfectionism theory, maladaptive perfectionist athletes should view the performance slump as more threatening than adaptive perfectionists because performance failure is potentially more damaging to the

maladaptive perfectionist's self-concept and self-esteem (Blatt, 1995; Gotwals et al., 2003; Hamachek, 1978). As the degree of threat from the stressor increases for the athlete, so too should the athlete's level of anxiety (Martens et al., 1990). Previous research in the field of sport psychology has shown that athletes with maladaptive perfectionist tendencies possess heightened competitive trait anxiety levels (Frost & Henderson, 1991) and are prone to experiencing heightened state anxiety in competitive sport settings (Hall et al., 1998).[1]

Worry is the cognitive component of anxiety, and can be defined as "a chain of thoughts and images [that are] negatively affect laden [and] relatively uncontrollable" (Borokovec, Robinson, Pruzinsky, & DePree, 1983, p. 10; Eysenck & Van Berkum, 1992). Recent research has determined that competitive worry can be comprised of at least four separate dimensions: *Fear of Failure, Fear of Negative Social Evaluation, Fear of Injury, and Fear of the Unknown* (Dunn, 1999; Dunn & Syrotuik, 2003). The fear of failure and fear of negative social evaluation are expected to be particularly salient to maladaptive perfectionists who are typically motivated to avoid failure and are highly concerned about making mistakes when pursuing their performance goals (Hamachek, 1978). Thus, in times of slumping performance when athletes are below their normal performance levels for prolonged periods of time, it is hypothesized that maladaptive perfectionists will experience more frequent worries about failure than adaptive perfectionists. Moreover, maladaptive perfectionist athletes typically perceive high levels of pressure from both their coaches and parents (Dunn et al., 2002). Consequently, when experiencing a slump, these athletes are likely to worry that they are being evaluated

[1] Readers who are interested in a comprehensive review of the link between perfectionism and the stress process are referred to Hewitt and Flett (2002).

negatively by these significant others, and would therefore be expected to experience more worries about negative social evaluation.

Irrespective of whether worries about performance failure and negative social evaluation are treated separately (e.g., Dunn, 1999; Dunn & Syrotuik, 2003) or as a single dimension (e.g., Martens et al., 1990; Smith, Smoll, & Schutz, 1990), it is important to determine if athletes with different perfectionist orientations experience different levels of worry during performance slumps. If athletes with different perfectionist tendencies do indeed differ in their worry dispositions during performance slumps, theorized differences in the degree of threat that is experienced by healthy versus unhealthy perfectionists in this performance context can be inferred. In turn, this may help explain any potential differences in coping strategy use that may be exhibited between healthy and unhealthy perfectionists. For example, people who experience higher levels of worry (i.e., negative affect) would be expected to use more emotion-focused coping strategies to deal with this emotional response.

High-performance athletes endure rigorous physical and psychological challenges in their pursuit of performance excellence. Understanding how these athletes respond to and deal with the inevitable demands of the competitive sport environment is of great interest to sport psychology researchers (Crocker et al., 1998; Eklund et al., 1998; Hardy et al., 1996; Lazarus, 1999). Being able to effectively deal with the demands of competitive sport is necessary to success, while a deficiency in these skills can block the attainment of an athlete's performance goals (Lazarus, 1999). This thesis will therefore attempt to determine if adaptive/healthy and maladaptive/unhealthy perfectionist orientations are differentially related to athletes' experiences during performance slumps.

These situations that reflect periods of poor performance provide a useful frame of reference for evaluating sport-related coping because athletes are prone to experiencing feelings of frustration, anxiety, and confusion during these times (Taylor, 1998). The information derived from this thesis may ultimately be useful for coaches and sport psychologists in their efforts to understand the factors that influence athletes' coping efforts during performance slumps.

Chapter 2

Method

Participants

A total of 137 female intercollegiate varsity volleyball players from 14 different teams participated in the study. Athletes ranged in age from 18 to 25 years (M = 19.94 years; SD = 1.67) and had an average playing experience of 1.65 years at the intercollegiate level (SD = 0.95). The average time these athletes had been in post-secondary education was 2.06 years (SD = 1.17), and they had, on average, used 1.98 years (SD = 1.13) of their intercollegiate eligibility. Thirty two athletes participated in the Canada West conference of the Canadian Interuniversity Sport (CIS) league while the remaining 105 athletes participated in the Alberta Colleges Athletics Conference (ACAC). The sample was comprised of 43 power hitters, 38 middle blockers, 22 libèros, 16 right side players, and 18 setters.

Instruments

Athletes completed three inventories: (1) a demographic questionnaire, (2) the Sport-Multidimensional Perfectionism Scale-2 (Sport-MPS-2: Gotwals, 2006), and (3) a revised version of the COPE inventory (MCOPE: Crocker & Graham, 1995) which also included eight additional items to measure worry responses to performance slumps (see Appendices A-C). The demographic questionnaire asked athletes about their age, playing experience, and most regular playing position.

Sport-Multidimensional Perfectionism Scale-2 (Sport-MPS-2). The Sport-MPS-2 (Gotwals, 2006) is a multidimensional measure of perfectionism within the domain of sport and contains 43 items. It is an updated version of the original Sport-

Multidimensional Perfectionism Scale (Sport-MPS) developed by Dunn and his colleagues (Dunn, Causgrove Dunn, et al., 2006; Dunn et al., 2002). The original Sport-MPS contains 30 items designed to measure four different aspects of perfectionism in sport: *Personal Standards* (PS: 7 items), *Concern Over Mistakes* (COM: 8 items), *Perceived Parental Pressure* (PPP: 9 items), and *Perceived Coach Pressure* (PCP: 6 items). The Sport-MPS-2 contains the same four subscales (including one new PCP item) and two new subscales—*Doubts About Actions* (DAA: 6 items) and *Organization* (ORG: 6 items)—that reflect sport-specific conceptualizations of the DAA and ORG subscales proposed by Frost et al. (1990). The Sport-MPS-2 instructs respondents that the purpose of the instrument is to measure how athletes' "view certain aspects of their competitive experiences in sport." Respondents rate the extent to which they agree with each of the items using a 5-point scale (1 = *strongly disagree*; 5 = *strongly agree*). Item scores are summed within each subscale, with higher composite subscale scores reflecting higher levels of perfectionism on each dimension.

Studies by Dunn and his colleagues (Dunn, Causgrove Dunn, et al., 2006; Dunn et al., 2002) have found acceptable levels of internal consistency for the four original Sport-MPS subscales, with Cronbach's alpha $\geq .70$ across a number of independent samples. Gotwals (2006) has recently shown adequate levels of internal consistency for the newly developed DAA and ORG subscales (alphas $> .70$) with samples of intercollegiate varsity athletes from a variety of team sports ($n = 251$) and male intercollegiate ice hockey players ($n = 181$). Criterion-related validity evidence for the four original Sport-MPS subscales was also provided by Dunn, Causgrove Dunn, et al. (2006), who found that each subscale had meaningful relationships with Hewitt-MPS subscales (Hewitt & Flett,

1991) among samples of male Canadian football players (n= 138) and female figure skaters (N = 121). In accordance with theoretical expectations, Dunn, Causgrove Dunn, et al. (2006) found that the personal standards subscale of the Sport-MPS was positively correlated with the self-oriented perfectionism subscale of the Hewitt-MPS for both the football players (r = .70) and figure skaters (r = .66). The concern over mistakes subscale of the Sport-MPS was positively correlated with the socially prescribed perfectionism subscale of the Hewitt-MPS (r = .62 for football and .70 for the figure skating sample). Perceived coach pressure (r = .53 for football and .60 for figure skaters) and perceived parental pressure (r = .42 and .62 respectively) were also correlated in the expected directions with the socially prescribed perfectionism subscale of the Hewitt-MPS. Dunn, Causgrove Dunn, et al. (2006) concluded that the four subscales of the Sport-MPS measure similar aspects of inter- and intra-personal perfectionism that are measured by the socially prescribed perfectionism and self-oriented perfectionism subscales of the Hewitt-MPS. Factorial validity evidence for the original Sport-MPS was established by Dunn, Causgrove Dunn, et al. (2006), and factorial validity for the six subscales of the new Sport-MPS-2 was recently reported by Gotwals (2006) with samples of intercollegiate varsity athletes. Overall, results from independent samples indicate that the subscales of the Sport-MPS-2 have acceptable psychometric properties and are appropriate for measuring perfectionism in intercollegiate sport.

Modified-COPE (MCOPE). The MCOPE was constructed by Crocker and Graham (1995) to measure coping strategies in sport across 12 dimensions. Each dimension (or subscale) contains four items. The MCOPE contains eight subscales that are based on Carver et al.'s (1989) original COPE instrument, one subscale that was later

added to the COPE (Carver, as cited in Fontaine, Manstead, & Wagner, 1993, p.271), and three subscales that were introduced by Crocker and Graham based on research by Crocker (1992) and Madden, Summers, and Brown (1990). Changes to the original COPE were also made to the wording of many items in the MCOPE by Crocker and Graham to increase their relevance to the competitive sport environment (e.g., "I tried to get emotional support from friends and relatives" became "I tried to get help from my coach or teammates to deal with my feelings").

The eight subscales of the MCOPE that reflect original COPE subscales are *Active Coping* (e.g., "I took direct action to overcome the performance challenge"), *Planning* (e.g., "I thought hard about what steps to take to manage this situation"), *Suppression of Competing Activities* (e.g., "I didn't let myself think about anything except my performance"), *Instrumental Social Support* (e.g., "I asked teammates what they did or would do"), *Emotional Social Support* (e.g., "I talked about my feelings with someone"), *Focus on Venting of Emotions* (e.g., "I got upset and let my feelings out"), *Denial* (e.g., "I acted as though I was not having performance difficulties"), and *Behavioural Disengagement* (e.g., "I gave up trying to get what I want out of my performance"). The new subscale introduced by Fontaine et al. (1993) reflects the use of *Humour* as a coping strategy (e.g., "I kidded around about my performance"), and the three new subscales developed by Crocker and Graham were designed to measure *Increased Effort* (e.g., "I tried to increase the quality of my performance"), *Wishful Thinking* (e.g., "I wished the situation would go away or somehow be over"), and *Self-Blame* (e.g., "I decided I was at fault for my performance").

In general, internal consistency values for 11 of the 12 MCOPE subscales have

been adequate and consistently ranged from .62 to .92 (see Crocker & Graham, 1995; Eklund et al., 1998). The *Denial* subscale, however, has shown poorer and more variable reliability results with coefficient alpha as low as .42 and no higher than .74 (Eklund et al., 1998). Factor analytic work by Eklund et al. indicated that the MCOPE may be better represented by 10 factors as opposed to the original 12 factors proposed by Crocker and Graham. In the 10-factor model proposed by Eklund et al., the social support subscales were combined to form one factor and Planning and Active Coping subscales were combined to form another factor. Nevertheless, the 12-factor model was adopted in the current study given that researchers have argued for theoretical distinctions between instrumental coping and emotional support (e.g., Cutrona & Russell, 1990) and between making a plan and actually carrying it out (e.g., Snyder et al., 1991).

Given that the purpose of the present study was to examine coping strategies in the context of a performance slump, the following set of verbatim instructions was given to respondents prior to completing the current version of the MCOPE.

> We would like to know how you responded when you were experiencing a slump in your competitive form. This slump can relate to both training and competitive situations. Performance slumps refer to unexpected declines in your personal performance, where you could not seem to reach your normal performance standards. For some athletes this performance slump may have lasted a few days, whereas for others it may have lasted a few weeks or even longer. We are also interested in how effective your responses were in managing your performance slump.

These instructions were based upon instructions provided to athletes in a previous

study conducted by Eklund et al. (1998) who examined slump-related coping in a sample of 870 Australian athletes. The instructions also catered to recommendations from Taylor (1988) with regards to allowing athletes to individually interpret the length of their own performance slumps rather than imposing a specific time frame that determined slump length.

Following these instructions, athletes were directed to think about a time when they had experienced a slump in their performance and how they had responded to this situation. The athletes were then asked to indicate if they had ever experienced a slump of this nature using a forced-choice response format (yes/no). If the athlete answered "yes", she was then instructed to specify how long this slump had lasted. Finally, the athletes completed the MCOPE items in the context of the performance slump that was identified in the previous question. Respondents rated each of the 54 items (including 8 new worry items) on two 5-point response scales. The first scale asked respondents to indicate how often they had responded in a particular way during the performance slump (1 = *never*; 5 = *very often*). The second scale asked respondents to indicate the extent to which they felt their behavioural or cognitive response had been effective in managing their slump (1 = *extremely ineffective*; 5 = *extremely effective*). To the best of the researcher's knowledge, the effectiveness scale of the MCOPE has not been previously used in any published research. Only data provided by athletes who indicated that they had experienced a performance slump were used for data analytic purposes.

The eight new worry items that were embedded within the MCOPE came from two subscales of the Collegiate Hockey Worry Scale (CHWS: Dunn, 1999). These subscales were developed by Dunn to measure *Fear of Failure* (4 items) and *Fear of*

Negative Social Evaluation (4 items), and were chosen because they reflect both the intra- and inter-personal concerns that are often associated with maladaptive perfectionism (Blatt, 1995). The factorial composition of these worry subscales has been previously demonstrated by Dunn (1999) and Dunn and Syrotuik (2003) who also reported adequate levels of subscale internal consistency (coefficient alphas > .70). Dunn and Causgrove Dunn (2001) provided evidence of criterion-related validity for these subscales showing significant positive correlations between the two subscales and other measures of competitive trait anxiety including the Sport Competition Anxiety Test (SCAT: Martens, 1977) and the worry subscale of the Sport Anxiety Scale (SAS: Smith et al., 1990).

Procedures

Approval to conduct the study was granted by the Human Research Ethics Board of the Faculty of Physical Education and Recreation at the University of Alberta and by the Director and Executive Committee of the ACAC. Coaches were contacted by electronic mail to seek their approval to conduct the study with their athletes. Upon receiving the coaches' approval, the researcher scheduled data collection to take place at each team's respective university or college. The instruments were filled out in classroom settings on a non-game day either during, or shortly after, each team's competitive season. Standard ethical and informed consent procedures were adopted throughout the study. Coaches were required to leave the testing room during the assessment period. The presentation order of the Sport-MPS-2 and the MCOPE were counterbalanced to minimize any potential order effects, however, the demographic questionnaire was always presented first. On average, athletes took approximately 30

minutes to complete the test package.

Chapter 3

Results

The average length of performance slumps reported by athletes in this study was 24.46 days (SD = 43.69). One athlete indicated on the MCOPE that she had never experienced a performance slump. Consequently her data were removed from all analyses that involved examination of MCOPE frequency and effectiveness responses.

Preliminary Psychometric Analyses

Although previous research has suggested that the eight worry items that were added to the MCOPE can be treated as separate factors—representing fear of failure and fear of negative social evaluation (see Dunn, 1999; Dunn & Syrotuik, 2003)—other sport psychologists have combined these (or similar) items into a single or unidimensional construct that has either been labelled as worry (e.g., Smith et al., 1990) or cognitive anxiety (e.g., Martens et al., 1990). Consequently, to determine the most appropriate dimensionality of these items for the current data set, the correlation matrix of the frequency responses of these eight items were examined with an exploratory principal axes (PA) factor analysis.[2] Only one eigenvalue > 1.0 was obtained from the PA analysis (λ_1 = 4.79), and Cattell's (1978) scree plot criteria also suggested the retention of a single factor (see Figure 1). All items had factor loadings ≥ .60 on the single factor. Consequently, the eight items were combined into a single subscale that was labelled "worry" frequency. The internal consistency of this 8-item worry frequency subscale was high (α = .90).

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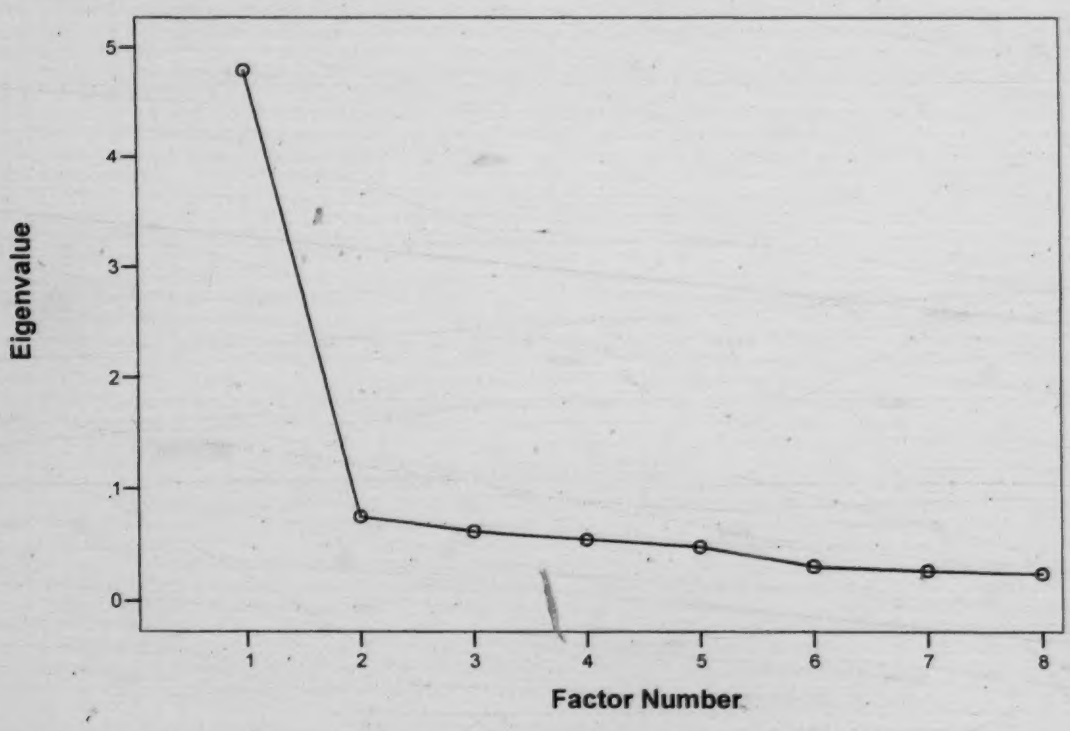
[2] Given that factor analysts have recommended a minimum 5:1 subject-to-variable ratio for factor analysis, a factor analysis on the entire set of MCOPE items (n = 54) was not possible (see Gorsuch, 1983).

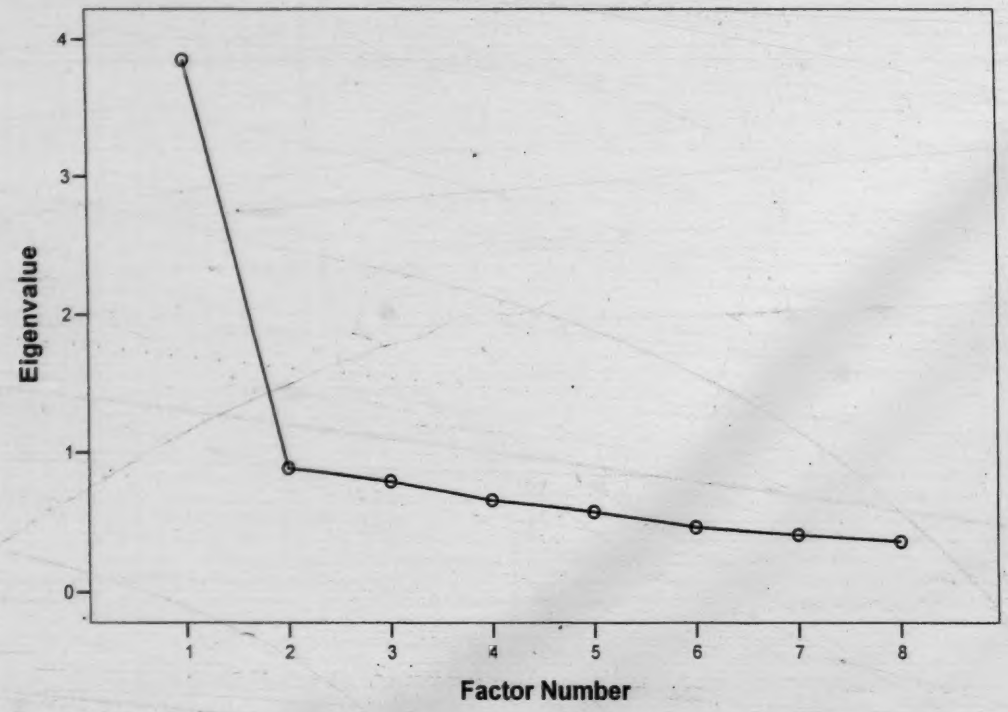
Figure 1. Scree plot of eigenvalues following principal axes analysis of M-COPE worry frequency items.



The same principal axes analysis was conducted on the correlation matrix of the effectiveness responses for the eight worry items. Again, only one eigenvalue > 1.0 was obtained ($\lambda_1 = 3.85$) with Cattell's (1978) scree criteria suggesting the retention of a single factor (see Figure 2). All items had factor loadings ≥ .56 on the single factor. The internal consistency of the 8-item worry effectiveness subscale was also acceptable (α = .84).

All six Sport-MPS-2 subscales achieved acceptable levels of internal consistency (i.e., $\alpha \geq .70$), with alpha coefficients ranging from .78 to .89 (see Table 1). Five subscales of the MCOPE that measured coping frequency failed to reach acceptable

Figure 2. Scree plot of eigenvalues following principal axes analysis of M-COPE worry effectiveness items.



levels of internal consistency (i.e., $\alpha < .70$). These subscales were *Suppression of Competing Activities* ($\alpha = .63$), *Active Coping* ($\alpha = .67$), *Self-Blame* ($\alpha = .62$), *Wishful Thinking* ($\alpha = .67$), and *Denial* ($\alpha = .55$). However, with the removal of one item from the *Active Coping* subscale (*"I tried real hard to do something about my performance"*) coefficient alpha increased to .69. Consequently, a 3-item *Active Coping* subscale was retained, but the other four MCOPE subscales with internal consistency values < .70 were omitted from all further analyses. Given the marginal level of internal consistency for the 3-item *Active Coping* subscale, some degree of caution in interpreting results pertaining to this subscale is warranted.

The MCOPE effectiveness subscales showed similar levels of internal

consistency, with five subscales failing to reach the .70 criterion for coefficient alpha: *Suppression* ($\alpha = .49$), *Self-Blame* ($\alpha = .59$), *Wishful Thinking* ($\alpha = .48$), *Denial* ($\alpha = .65$) and *Venting of Emotions* ($\alpha = .69$). Although *Venting of Emotions* failed to reach the .70 criterion, it was retained given its marginal level of internal consistency. Consequently, caution in interpreting results pertaining to this subscale is again advocated. The four remaining subscales with low internal consistency values were again omitted from all further analyses.

In summary, on the evidence obtained from the psychometric analyses, all six Sport-MPS-2 subscales were retained. In contrast, only eight of the 12 original MCOPE frequency and effectiveness subscales were retained. In addition, an 8-item worry subscale (for frequency and effectiveness responses) within the MCOPE was also retained for further data analysis.

Additional Data Screening

Separate MANOVAs were conducted to ensure that there were no systematic differences in the Sport-MPS-2 and MCOPE responses between athletes who completed the inventories during the season ($n = 100$) and athletes who completed the inventories shortly after the season ($n = 36$). In the first MANOVA, the six Sport-MPS-2 subscales were entered as the dependent variables, and "stage of season" (i.e., in-season vs post-season) was entered as the independent variable. A non-significant multivariate test statistic was obtained: Wilks $\Lambda = .91$, $F(6, 130) = 2.00$, $p = .07$. In the second MANOVA, the frequency data for the nine retained MCOPE subscales (including the worry subscale) were entered as dependent variables. A non-significant multivariate test

Table 1.

Subscale Item Means, Standard Deviations, and Internal Consistencies (α) for all Measures

Subscale Label	*M*	*SD*	α
Sport-MPS-2			
Personal Standards	3.64	0.59	.81
Concern Over Mistakes	2.81	0.71	.78
Doubts About Actions	2.57	0.71	.85
Perceived Coach Pressure	3.24	0.74	.82
Perceived Parental Pressure	2.17	0.73	.89
Organization	3.66	0.71	.86
MCOPE Frequency			
Planning	3.57	0.73	.83
Suppression	3.15	0.60	.63
Increased Effort	4.43	0.47	.78
Active Coping	3.96	0.56	.69[a]
Disengagement	1.65	0.62	.73
Humour	2.61	1.09	.94
Venting of Emotions	2.64	0.80	.81
Self Blame	3.61	0.67	.62
Seeking Social Support - Emotional	3.56	0.85	.81
Seeking Social Support - Instrumental	3.18	0.82	.74
Wishful Thinking	3.86	0.74	.67
Denial	2.23	0.69	.55
Worry	3.87	0.79	.90
MCOPE Effectiveness			
Planning	3.82	0.61	.72
Suppression	3.28	0.56	.49
Increased Effort	4.03	0.60	.80
Active Coping	4.00	0.66	.72[a]
Disengagement	2.98	1.17	.84
Humour	2.98	0.87	.88
Venting of Emotions	2.50	0.83	.69
Self Blame	2.73	0.67	.59
Seeking Social Support - Emotional	4.00	0.62	.70
Seeking Social Support - Instrumental	3.69	0.76	.72
Wishful Thinking	3.01	0.53	.48
Denial	2.85	0.72	.65
Worry	2.21	0.67	.84

[a] Alpha value obtained following the removal of item 12.

statistic was obtained: Wilks $\Lambda = .89$, $F(9, 127) = 1.75$, $p = .09$. In the third MANOVA, the effectiveness data for the nine MCOPE subscales (including the worry subscale) were entered as dependent variables. A non-significant multivariate test statistic was obtained: Wilks $\Lambda = .90$, $F(9, 120) = 1.44$, $p = .18$.[3] Collectively, these results indicate that the timing of test administration did not differentially effect athletes' responses to the Sport-MPS-2 and MCOPE.

A similar series of MANOVAs were conducted to ensure that there were no systematic differences in the Sport-MPS-2 and MCOPE responses of athletes who competed in the ACAC ($n = 105$) and athletes who competed in the Canada West conference of the CIS ($n = 32$). In the first MANOVA, the six Sport-MPS-2 subscales were entered as the dependent variables, and "level of competition" (i.e., ACAC vs CIS) was entered as the independent variable. A non-significant multivariate test statistic was obtained: Wilks $\Lambda = .98$, $F(6, 130) = 0.46$, $p = .84$. In the second MANOVA, the frequency data for the nine MCOPE subscales (including the worry subscale) were entered as dependent variables. A non-significant multivariate test statistic was again obtained: Wilks $\Lambda = .90$, $F(9, 127) = 1.56$, $p = .14$. In the third MANOVA, the effectiveness data for the nine MCOPE subscales (including the worry subscale) were entered as dependent variables. A non-significant multivariate test statistic was obtained: Wilks $\Lambda = .97$, $F(9, 120) = 0.42$, $p = .92$.[4] Collectively, these results indicate that the level of competition (i.e., CIS vs. ACAC) did not differentially effect the athletes' responses.

The potential for a presentation order effect was also examined with three

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[3] Seven cases were rejected due to missing data.
[4] Seven cases were rejected due to missing data.

MANOVAs. In the first MANOVA, the six Sport-MPS-2 subscales were entered as the dependent variables, and "presentation order" (i.e., Sport-MPS-2 followed by MCOPE vs. MCOPE followed by Sport-MPS-2) was entered as the independent variable. A non-significant multivariate test statistic was obtained: Wilks $\Lambda = .98$, $F(6, 130) = 0.39$, $p = .88$. In the second MANOVA, the frequency data for the nine MCOPE subscales (including the worry subscale) were entered as dependent variables. A non-significant multivariate test statistic was again obtained: Wilks $\Lambda = .93$, $F(9, 127) = 1.03$, $p = .42$. In the third MANOVA, the effectiveness data for the nine MCOPE subscales (including the worry subscale) were entered as dependent variables. A non-significant multivariate test statistic was obtained: Wilks $\Lambda = .93$, $F(9, 120) = 1.04$, $p = .42$.[5] Collectively, these results indicate that the presentation order of the instruments did not differentially effect athletes' responses.

On the basis of the aforementioned statistical analyses, it was concluded that no systematic differences in Sport-MPS-2 and MCOPE responses existed as a function of stage of season, competition level, and presentation order. Consequently, collapsing the data provided by all 136 athletes into a single data set was deemed appropriate.

Bivariate Correlations

Bivariate (Pearson Product Moment) correlations between Sport-MPS-2 subscales and MCOPE frequency subscales were examined (see Table 2).[6] Personal standards had significant positive correlations with the frequency of problem-focused coping strategies (including planning [$r = .24$], increasing effort [$r = .29$], and active coping [$r = .25$]), and a significant positive correlation with venting of emotions ($r = .18$). Similarly,

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[5] Seven cases were rejected due to missing data.

[6] Correlations among the Sport-MPS-2 subscales are contained in Appendix D, and correlations between MCOPE frequency and effectiveness subscales are contained in Appendix E.

Table 2.

Correlations Between Sport-MPS-2 Subscales and MCOPE Frequency Subscales

	MCOPE Frequency								
	Planning	Effort	Active	Disengage	Humour	Venting	SS-E	SS-I	Worry
Sport-MPS-2									
PS	.24**	.29**	.25**	-.06	-.11	.18*	.00	.01	.12
COM	-.10	-.17	-.23**	.14	.00	.18*	-.08	.00	.43**
DAA	-.12	-.22**	-.22*	.29**	.17	.07	-.13	-.16	.22**
PCP	-.06	-.12	-.12	.34**	.18*	.14	.02	.00	.33**
PPP	.00	-.08	-.08	-.03	-.04	.03	-.15	-.10	.20*
ORG	.40**	.20*	.29**	.16	.00	.24**	.26**	.17	.16

Note. Subscale abbreviations: PS = Personal standards; COM = Concern over mistakes; DAA = Doubts about actions; PCP = Perceived coach pressure; PPP = Perceived parental pressure; ORG = Organization; Effort = Increased effort; Active = Active coping; Disengage = Disengagement; Venting = Venting of emotions; SS-E = Seeking social support for emotional reasons; SS-I = Seeking social support for instrumental reasons.

* $p < .05$. ** $p < .01$.

organization was positively correlated with the frequency of planning (r = .40), increasing effort (r = .20), active coping (r = .29), and venting of emotions (r = .24). Organization was also positively correlated with the frequency of seeking social support for emotional reasons (r = .26). Concern over mistakes had a moderate positive correlation with the frequency of worry (r = .43), a small but significant positive correlation with venting of emotions (r = .18), and a small negative correlation with the frequency of active coping (r = -.23). Doubts about actions had small positive correlations with the frequency of behavioural disengagement (r = .29) and worry (r = .22), and small negative correlations with the tendency to increase effort (r = -.22) and actively cope (r = -.22) during performance slumps. Perceived coach pressure and perceived parental pressure were both positively associated with the tendency to worry (r = .33 and r = .20 respectively). Perceived coach pressure was also positively correlated with the tendency to employ behavioural disengagement (r = .34) and humour (r = .18) as coping strategies during performance slumps.

When looking at correlations between perfectionism and perceptions of coping *effectiveness* (see Table 3), personal standards had a small positive correlation with planning effectiveness (r = .19), suggesting that the higher individuals' personal standards become, the more likely they were to view planning as an effective coping strategy. Similarly, organization had a moderate positive correlation with planning effectiveness (r = .32) and a small positive correlation with seeking social support for emotional reasons (r = .24). In other words, as individuals' organization levels increased, so too did their tendency to view planning and the use of social support as effective coping strategies during a performance slump. Concern over mistakes had small (but

Table 3.

Correlations Between Sport-MPS-2 Subscales and MCOPE Effectiveness Subscales

	M-COPE Effectiveness								
	Planning	Effort	Active	Disengage	Humour	Venting	SS-E	SS-I	Worry
Sport-MPS-2									
PS	.19*	.10	.17	.16	.14	.04	.00	.07	.01
COM	-.18*	-.16	-.03	-.09	-.03	-.14	-.17*	-.12	-.14
DAA	-.20*	-.26**	-.24**	-.23**	.01	-.11	-.30**	-.39**	-.09
PCP	-.11	-.19*	-.11	-.11	.05	-.10	-.15	-.19*	-.19*
PPP	.00	-.13	-.06	-.01	-.02	-.04	-.13	-.03	.01
ORG	.32**	.04	.08	.01	.01	.03	.24**	.09	.05

Note. Subscale abbreviations: PS = Personal standards; COM = Concern over mistakes; DAA = Doubts about actions; PCP = Perceived coach pressure; PPP = Perceived parental pressure; ORG = Organization; Effort = Increased effort; Active = Active coping; Disengage = Disengagement; Venting = Venting of emotions; SS-E = Seeking social support for emotional reasons; SS-I = Seeking social support for instrumental reasons.

*$p < .05$. **$p < .01$.

significant) negative correlations with the perceived effectiveness of planning (r = -.18) and seeking social support for emotional reasons (r = -.17). Doubts about actions was negatively correlated with the effectiveness of planning (r = -.20), increased effort (r = -.26), active coping (r = -.24), behavioural disengagement (r = -.23), and seeking social support for both instrumental (r = -.39) and emotional (r = -.30) reasons. It appears that athletes with higher doubts about actions tended to view the majority of their coping strategies as being less effective in comparison to people who have lower doubts about actions. Perceived coach pressure had small negative correlations with perceived effectiveness of effort (r = -.19), worry (r = -.19), and seeking social support for instrumental reasons (r = -.19). Perceived parental pressure was not significantly correlated with any of the MCOPE effectiveness subscales (including worry).

Multivariate Relationships Between Perfectionism and Coping

The previous correlations provide insight into the bivariate relationships between perfectionism and coping subscales. However, a greater understanding of the functional nature of perfectionism may be acquired when perfectionism subscale scores are considered simultaneously (see Blatt, 1995; Dunn et al., 2002; Frost et al., 1990; Parker, 1997). As noted previously, perfectionism researchers and theorists have suggested (or empirically demonstrated) that the potentially adaptive or maladaptive nature of various perfectionism components is best understood when scores across all perfectionism subscales are considered in conjunction with each other. For example, moderate to high personal standards and organization are sometimes associated with adaptive functioning when scores on the traditionally maladaptive dimensions of perfectionism (e.g., concern over mistakes, doubts about actions, and perceived coach pressure) are low, whereas

moderate to high personal standards and organization are sometimes associated with maladaptive functioning when scores on the maladaptive dimensions are high (see Dunn et al., 2002; Parker, 1997; Rice & Mirzadeh, 2000). Consequently, canonical correlation analysis was used in the present study to examine multivariate relationships between subscales of the Sport-MPS-2 and subscales of the MCOPE.

Canonical correlation coefficients (R_C) provide a measure of association between patterns of scores on two sets of variables. Tabachnick and Fidell (1996) have emphasized the importance of screening the data to determine their suitability for inclusion in a canonical correlation analysis because multivariate outliers can have an undue influence on results. The distributional characteristics of the data were therefore examined. Screening procedures involved the examination of skewness and kurtosis values (see Table 4). Multivariate outliers were examined using Mahalonobis distances. Overall, the distributional characteristics of each subscale were considered adequate for analytic purposes, with only the *Active Coping* effectiveness scale showing statistically significant departures from normality: skewness = -3.99 ($p < .001$) and kurtosis = 3.53 ($p < .001$). Mahalonobis distances revealed no multivariate outliers in the data set. Consequently, responses from all 136 athletes were used in the canonical correlation analyses.

Perfectionism and coping frequency. The nine MCOPE frequency subscales (including worry) that were retained following internal consistency analyses were entered as the criterion set, while the six subscales of the Sport-MPS-2 were entered as the predictor set. The overall multivariate test was significant: Wilks $\Lambda = .319$, F (54, 621.98) = 2.887, $p < .001$. Follow up tests revealed two significant canonical functions

Table 4.

Skewness and Kurtosis Values for all Retained Sport-MPS-2 and MCOPE Subscales

Subscale Label	Skewness	Kurtosis
Sport-MPS-2		
Personal Standards	-1.14	-0.55
Concern Over Mistakes	0.53	-0.70
Doubts About Actions	2.10	-1.86
Perceived Coach Pressure	1.80	-0.38
Perceived Parental Pressure	1.41	-0.80
Organization	-2.63*	0.60
MCOPE Frequency		
Planning	-1.0	1.33
Increased Effort	-2.37	-1.16
Active Coping	-2.03	1.71
Behavioural Disengagement	4.68**	1.66
Humour	1.18	-1.98
Venting of Emotions	2.80*	0.50
Seeking Social Support for Emotional Reasons	-2.47	-0.66
Seeking Social Support for Instrumental Reasons	-1.29	-0.72
Worry	-3.26*	-0.21
MCOPE Effectiveness		
Planning	-1.30	0.19
Increased Effort	-2.53	1.31
Active Coping	-3.99**	3.53**
Behavioural Disengagement	0.10	-2.20
Humour	-0.99	0.78
Venting of Emotions	0.78	-1.66
Seeking Social Support for Emotional Reasons	-2.40	1.14
Seeking Social Support for Instrumental Reasons	3.46**	0.89
Worry	1.22	-0.54

* $p < .01$. ** $p < .001$.

($R_{C1} = .633, p < .001$; $R_{C2} = .544, p < .001$). Tabachnick and Fidell (1996) recommend that a minimum R_C value of .30 be set for the level of "practical significance" when interpreting canonical correlations. Both canonical correlations obtained in this analysis

exceeded this minimum criterion value.

Table 5 contains the canonical loadings for the two significant canonical functions. Each loading represents the correlation between the subscale and the canonical variate. Canonical loadings are conceptually analogous to factor loadings in factor analysis. In other words, the pattern and magnitude of the canonical loadings are used to define the meaning of the canonical variate. To this end, only variables (i.e., subscales) with loadings $\geq |.30|$ are interpreted (Hair et al., 1998; Tabachnick & Fidell, 1996).

Five of the six Sport-MPS-2 subscales had interpretable canonical loadings on the perfectionism variate in the first canonical function (see Table 5). Only perceived parental pressure did not load on the perfectionism variate. Personal standards and organization had moderate positive loadings, whereas concern over mistakes, doubts about actions, and perceived coach pressure had moderate negative loadings. This pattern of canonical loadings resembles a profile of adaptive or healthy perfectionism (cf. Dunn et al., 2002; Parker, 1997; Rice & Lapsley, 2001; Rice & Mirzadeh, 2000; Stoeber & Otto, 2006).

Five of the MCOPE subscales had interpretable loadings on the coping variate. Specifically, planning, increased effort, and active coping had moderate to strong positive loadings, whereas behavioural disengagement and worry had moderate negative loadings on the coping variate. This pattern of loadings is indicative of athletes who engage in problem-focused coping to deal with the performance slump and who do not experience frequent concerns (i.e., worry) during the slump. Given the magnitude of the correlation between the perfectionism and coping variates ($R_{C1} = .633$), these results suggest that as

Table 5.

Canonical Loadings of Perfectionism and Coping Frequency

	Canonical Loadings	
Subscale Label	Function 1	Function 2
Sport-MPS-2		
Personal Standards	.435	.448
Concern Over Mistakes	-.591	.450
Doubts About Actions	-.524	.272
Perceived Coach Pressure	-.443	.528
Perceived Parental Pressure	-.259	.134
Organization	.388	.814
MCOPE Frequency		
Planning	.558	.501
Increased Effort	.683	.162
Active Coping	.729	.231
Behavioural Disengagement	-.375	.511
Humour	-.251	.082
Venting of Emotions	.025	.589
Seeking Social Support for Emotional Reasons	.228	.378
Seeking Social Support for Instrumental Reasons	.181	.225
Worry	-.478	.693

athletes' adaptive or healthy perfectionist orientations increase, so too does their tendency to engage in active problem-focused coping.

In the second canonical function (Table 5), both doubts about actions and perceived parental pressure did not have meaningful loadings on the perfectionism variate. However, personal standards, organization, concern over mistakes, and perceived coach pressure had moderate to strong positive loadings on the perfectionism variate. Given that higher scores on concern over mistakes and perceived coach pressure are synonymous with dysfunctional perfectionism in sport (Dunn et al., 2002; Dunn, Gotwals, et al., 2006), this pattern of canonical loadings appears to resemble a profile of maladaptive or unhealthy perfectionism (cf. Dunn, Gotwals, et al., 2006; Gotwals et al., 2003; Hall et al., 1998).

Five of the MCOPE subscales had interpretable loadings on the coping variate. Specifically, planning, behavioural disengagement, venting of emotions, seeking social support for emotional reasons, and worry had moderate to strong positive loadings on the coping variate. This pattern of loadings denotes a tendency to use emotion-focused and avoidance-type coping. The magnitude of the correlation between the perfectionism and coping variates ($R_{C2} = .544$) suggests that as athletes' maladaptive or unhealthy perfectionist orientations increase, so too does their tendency to worry, disengage from the stressor, vent emotions, seek assistance with their emotions, and plan to deal with performance slumps. These coping strategies are indicative of people who are primarily attempting to deal with the unpleasant emotional experiences that may occur during a performance slump (as opposed to actively dealing with the problem of the slump itself).

Perfectionism and coping effectiveness. To examine the multivariate relationship

between perfectionism and perceived coping effectiveness, a similar canonical correlation procedure was adopted. The nine MCOPE effectiveness subscales (including worry) were entered as the criterion set, while the six subscales of the Sport-MPS-2 were again entered as the predictor set. The overall multivariate test was significant: Wilks Λ = .467, F (54, 585.88) = 1.746, p <.001.[7] Follow-up tests revealed one significant canonical function (R_C = .565, p < .001). Table 6 contains the canonical loadings for this significant canonical function. Again, only variables with loadings ≥ |.30| were interpreted.

Four of the six Sport-MPS-2 subscales had interpretable canonical loadings on the perfectionism variate, with personal standards and perceived parental pressure failing to load on the perfectionism variate. Organization was the only variate with an interpretable positive loading, while concern over mistakes, doubts about actions, and perceived coach pressure had moderate to large negative loadings. Overall, this canonical variate appears to resemble an adaptive or healthy profile of perfectionism, although it is acknowledged that the personal-standards loading was not interpretable.

Six of the MCOPE subscales had significant loadings on the coping variate. Perceived effectiveness of planning, increased effort, active coping, behavioural disengagement, as well as seeking social support for both emotional and instrumental reasons had moderate to large positive loadings on the coping variate. This pattern of loadings is indicative of athletes who have a tendency to view their coping efforts (or their decision not to employ a certain strategy) as effective when responding to their performance slump. Given the magnitude of the correlation between the perfectionism and coping variates (R_C = .565), these loadings suggest that as athletes' adaptive or

[7] Seven cases were rejected due to missing data.

Table 6.

Canonical Loadings of Perfectionism and Coping Effectiveness

Subscale Label	Canonical Loadings
Sport-MPS-2	
Personal Standards	.256
Concern Over Mistakes	-.477
Doubts About Actions	-.813
Perceived Coach Pressure	-.512
Perceived Parental Pressure	-.141
Organization	.458
MCOPE Effectiveness	
Planning	.675
Increased Effort	.554
Active Coping	.498
Behavioural Disengagement	.436
Humour	.076
Venting of Emotions	.226
Seeking Social Support for Emotional Reasons	.639
Seeking Social Support for Instrumental Reasons	.713
Worry	.244

healthy perfectionist orientations increase, so too do their perceptions that the coping strategies they have employed are effective in dealing with their performance slump.

Chapter 4

Discussion

The overall purpose of the present study was to examine the relationship between athletes' perfectionist tendencies and the coping strategies they use to deal with a performance slump. According to theory, unhealthy perfectionists are emotionally vulnerable to failure because they view failure as an unacceptable aspect of the performance environment (Frost et al., 1990; Hamachek, 1978; Hewitt & Flett, 1991) and because they view failure as a threat to their self-worth and self-esteem (Gotwals et al., 2003). Moreover, theorists suggest that unhealthy perfectionists tend to be overly critical of their personal performance endeavours (Blatt, 1995; Burns, 1980; Missildine, 1963) no matter how hard they try or how well they do something. Consequently, it was hypothesized that athletes displaying unhealthy perfectionist tendencies would be inclined to (a) experience anxiety (i.e., worry) in a performance slump, (b) use avoidant and emotion-focused coping strategies to deal with this unwanted emotion, and (c) be overly critical of their coping efforts (i.e., view their coping strategies as ineffective).

Theory suggests that healthy perfectionists are less emotionally vulnerable to failure because they view mistakes as an accepted—although unwanted—part of the performance process (Hamachek, 1978) and because failure does not pose a large degree of threat to their self-esteem or self-concept (Gotwals et al., 2003). In addition, healthy perfectionists are expected to experience a sense of satisfaction if they feel that they have worked their hardest or demonstrated personal improvement on tasks, even if they fail to produce the desired error free performance (Dunn et al., 2002; Hamachek, 1978). In other words, theory suggests that healthy perfectionists are likely to be less critical of

their performance endeavours than unhealthy perfectionists (Hamachek, 1978; Stoeber & Otto, 2006). Thus, it was hypothesized that athletes who had healthy perfectionist tendencies would be inclined to (a) experience less anxiety (worry) in a slump, (b) focus their coping towards dealing with the slump, and (c) view their coping efforts in a non-critical manner (i.e., viewing coping efforts as effective in dealing with their performance slump). Overall, results generally supported these hypotheses.

When using the terms "healthy" or "unhealthy" perfectionism, it is important to acknowledge that scores across all perfectionism dimensions of the Sport-MPS-2 were considered simultaneously in this study. Canonical correlation analysis was employed, and results yielded support for two clearly distinct perfectionist profiles that appear to relate quite differently to coping strategy use among athletes in the context of performance slumps. Five of the six Sport-MPS-2 subscales had interpretable loadings on the first canonical function in Table 5, and resembled a profile of healthy perfectionism. Specifically, moderate positive loadings on the personal standards and organization subscales, along with moderate negative loadings on the concern over mistakes, doubts about actions, and perceived coach pressure subscales helped to define the healthy perfectionism variate. In other words, this profile of perfectionism resembled individuals who were inclined to set high personal standards, were organized, yet experienced few concerns about mistakes, few doubts about actions, and few coach pressures. As will be discussed later, the adaptive or healthy nature of conceptually similar profiles of perfectionism has been reported in the literature by a number of researchers (see Dunn et al., 2002; Gould et al., 2002; Parker, 1997; Rice & Mirzadeh, 2000; Stoeber & Otto, 2006).

The profile of healthy perfectionism in Table 5 was significantly correlated (R_C = .633) with a coping-frequency variate that resembled a problem-focused approach to dealing with stress in the performance slump. Planning, increased effort, and active coping all had moderate to large positive loadings on the coping variate whereas behavioural disengagement had a negative loading. Notably, this coping profile was also associated with the tendency to experience little worry during the slump (as reflected by a moderate negative canonical loading on the worry subscale). Sport psychology researchers have generally argued that this problem-focused pattern of coping responses is an appropriate means by which athletes resolve stressful situations in the sport environment because these coping strategies are related to short-term as well as long-term coping effectiveness (see Kim & Duda, 2003; Kowalski, 2007).

When examining the multivariate relationship between perfectionism and the frequency of coping strategy use, the second canonical function that was extracted revealed a much different perfectionism pattern than that observed in the first canonical function (see Table 5). Relative to the first perfectionism variate, the personal standards subscale had a very similar positive loading on the second perfectionism variate. However, the pattern of loadings that corresponded to the other Sport-MPS-2 subscales was quite different. Specifically, the concern over mistakes and perceived coach pressure subscale had moderate positive loadings, and the organization subscale had an extremely high positive loading on the perfectionism variate in the second canonical function. As will be discussed later, conceptually similar profiles of perfectionism that have been associated with maladaptive or unhealthy perfectionism have been reported in the literature (e.g., Dunn et al., 2002; Dunn, Gotwals, et al., 2006). The current pattern of

perfectionism loadings in the second canonical function was positively correlated (R_C = .544) with the use of emotion-focused and avoidant-type coping strategies as well as a tendency to worry. Specifically, planning, behavioural disengagement, emotional venting, the seeking of social support for emotional reasons, and worry had moderate to strong positive loadings on the coping-frequency variate in the second canonical function. Although emotion-focused coping and avoidant-type strategies can aid in managing negative emotions in the short term, it is unlikely that these strategies will directly lead to changes in the actual problem (i.e., the slump itself) in the long term (see Kim & Duda, 2003).

Collectively, results in Table 5 indicate that healthy perfectionism is associated with a tendency to engage in a problem-focused approach to dealing with performance slumps whereas unhealthy perfectionism is associated with a tendency to cope with stress by attempting to deal with the negative affect (i.e., worry) that ensues as a result of the performance slump. Stated differently, the canonical correlation results in Table 5 suggest that healthy perfectionists attempt to deal with the *source* of stress, whereas unhealthy perfectionists attempt to deal with the stress response (i.e., worry) that is experience as a result of confronting the stressor (i.e., the performance slump). From an applied perspective, it is likely that coaches would prefer that athletes take a problem-focused approach and deal directly with the slump (in order to get out of the slump and improve performance) rather than focus on managing emotions that result from the slump (because this latter approach is less likely to directly help the athlete change the circumstances that are causing the slump). From the current results, it seems reasonable to speculate that athletes with healthy perfectionist orientations may be better equipped

psychologically to manage performance slumps than athletes with unhealthy perfectionist orientations. Future research is required to determine if healthy perfectionists are capable of more effectively or more quickly getting out of their performance slumps and returning to "normal" levels of performance than their unhealthy perfectionist counterparts.

It is worth reinforcing that some perfectionism theorists reject the notion that perfectionism can be both healthy and unhealthy (e.g., Flett & Hewitt, 2002; 2005; Pacht, 1984). Instead, these researchers view perfectionism as a predominantly destructive or unhealthy personality trait. Nevertheless, as previously stated in the thesis, Stoeber and Otto (2006) recently reviewed 35 empirical studies that examined this issue and found only one study that did not provide some support for a healthy or positive form of perfectionism.

A critical element of the approaches adopted in the papers reviewed by Stoeber and Otto (2006) was that all papers considered scores across various perfectionism subscales simultaneously. Although a detailed discussion of Stoeber and Otto's paper is beyond the scope of this paper, Stoeber and Otto concluded that healthy perfectionists tended to have high personal standards in combination with low scores on the destructive dimensions of perfectionism (including concern over mistakes, doubts about actions, and perceived parental pressure). In contrast, Stoeber and Otto concluded that unhealthy perfectionists tended to demand high levels of achievement (i.e., have high personal standards) in conjunction with having high concern over mistakes, high doubts about actions, and strong socially prescribed perfectionist tendencies (including high levels of perceived parental pressure and perceived coach pressure). As such, the two

perfectionism variates that were reported in Table 5 seem to closely fit with the healthy and unhealthy perfectionism profiles described by Stoeber and Otto.

The first perfectionism variate reported in Table 5 characterized individuals who set high personal standards of achievement in sport and were organized in these pursuits. Canonical loadings suggested that these individuals, however, were not overly concerned about whether they were flawless in their performance, nor did they appear to feel external pressure from their coach to be perfect. Empirical studies have found similar perfectionism profiles using a variety of data analytic techniques, and although different labels have been provided—e.g., healthy perfectionism (Stoeber & Otto, 2006; Stumpf & Parker, 2000), adaptive perfectionism (Chang et al., 2004; Dunn et al., 2002; Rice et al., 1998), and positive strivings perfectionism (Frost et al., 1993)—all researchers suggested that there were motivational or functional benefits to such a perfectionist profile. In contrast, the second perfectionism variate reported in Table 5 characterized individuals who feared that they would not live up to the high standards they had set for themselves in sport and to the standards they perceived their coach had set for them. In addition, these individuals appeared to be rigid in their need for organization and order and were highly concerned about the consequences of making mistakes in the pursuit of athletic success. Although different labels have again been used to describe similar perfectionism profiles in other studies—e.g., unhealthy perfectionism (Stoeber & Otto, 2006), maladaptive perfectionism (Dunn et al., 2002; Dunn, Gotwals, et al., 2006), and evaluative concerns perfectionism (Dunkley et al., 2000; Frost et al., 1993)—researchers have been unanimous in their view that this perfectionism profile has debilitating motivational or functional consequences.

The healthy perfectionism profile obtained in this study (as seen in the first canonical function in Table 5) is similar to an adaptive pattern of perfectionism found in Dunn et al.'s (2002) study of male teenage Canadian football players. Dunn et al. assessed the athletes' perfectionist orientations using the MPS-Football (subsequently labelled the Sport-MPS by Dunn, Causgrove Dunn et al., 2006) and their goal orientations using the Task and Ego Orientations in Sport Questionnaire (Duda & Nicholls, 1992). Using canonical correlation, Dunn et al. (2002) obtained a perfectionism variate that was defined by a strong positive loading on the personal standards subscale of the Sport-MPS and strong negative loadings on the perceived parental pressure, perceived coach pressure, and concern over mistakes subscales. This perfectionism profile was correlated with a strong task orientation (see Nicholls, 1989) and was deemed to resemble an adaptive profile of perfectionism. In contrast, Dunn et al. (2002) obtained a second perfectionism variate that was defined by a strong positive loading on the personal standards subscale along with positive loadings on perceived parental pressure, perceived coach pressure, and concern over mistakes subscales. This perfectionism variate was correlated with a strong ego orientation (see Nicholls, 1989) and was deemed to reflect a maladaptive profile of perfectionism.

The perfectionism profiles reported by Dunn et al. (2002) are similar to the profiles obtained in this study (Table 5) in that the adaptive profiles were linked to what are generally considered healthy or functional correlates, and the maladaptive profiles were linked to what are generally considered to be less healthy or less functional correlates. Overall, the perfectionism profiles obtained in this study and in the study by Dunn et al. (2002) lend support for the existence of both healthy and unhealthy

perfectionist orientations in sport (see also Dunn, Craft, et al., 2006).

An important finding in the canonical correlation results reported in Table 5 pertains to the similar positive loadings that were associated with the personal standards subscale in the two canonical functions. As noted previously, the personal standards loading in the first (i.e., healthy) perfectionism variate was .435, and .448 in the second (i.e., unhealthy) perfectionism variate. Despite having almost identical canonical loadings on the two perfectionism variates, the personal standards subscale was associated with distinctly different perfectionism profiles. Specifically, in the first canonical function, the personal standards subscale helped to define a healthy form of perfectionism whereas in the second canonical function, the personal standards subscale helped to define an unhealthy profile of perfectionism. It appears that having high personal standards are neither inherently good nor bad (cf. Blatt, 1995). Rather, the role of high personal standards as a functional/healthy or dysfunctional/unhealthy aspect of perfectionism depends upon an individual's scores on the predominantly maladaptive or dysfunctional perfectionism dimensions (such as concern over mistakes, doubts about actions, socially prescribed perfectionism, etc.). On this issue, Frost et al. (1990) speculated that "high personal standards… [may be] associated with psychopathology only among people who are high in concern over mistakes" (p.467).

Similar arguments to the one proposed above by Frost et al. (1990) have been presented by numerous perfectionism theorists and researchers (e.g., Blatt, 1995; Dunn et al., 2002; Hamachek, 1987). In the context of the present findings, having higher personal standards may have influenced the type of coping strategies athletes chose to employ during performance slumps depending upon the presence or absence of personal

concerns about mistakes, concerns over how others evaluated performance, and whether (or not) the athlete doubted the quality of her actions to prepare for competition (as reflected by doubts about actions). When one considers the patterns of canonical loadings on the two perfectionism variates reported in Table 5 and their relationships with the coping frequency variates, it becomes apparent that different perfectionist orientations are differentially associated with the way the current sample of female volleyball players perceived, interpreted, and responded to performance slumps.

Another interesting finding from the canonical correlation results (Table 5) relates to the magnitude of the canonical loadings associated with the organization subscale in the two perfectionism variates. Specifically, the organization subscale had a low (but meaningful) positive loading (.388) on the healthy perfectionism variate, but a large positive loading (.814) on the unhealthy perfectionism variate. It seems reasonable to speculate that holding high standards in conjunction with a *demand* for order and organization (as reflected by the strong positive loading in the unhealthy perfectionism variate) indicates an almost obsessive need to find a sense of control in the performance environment. Periasamy and Ashby (2002) recently found that in a sample of 262 male and female undergraduates, maladaptive perfectionists had significantly higher external locus of control than adaptive perfectionists. When maladaptive perfectionists experience a performance slump, it is possible that they no longer feel they can control their success, which may lead to an obsession with controlling their preparation in order to maximize their perceived control over their environment.

Interestingly, the canonical correlation results in Table 5 revealed that planning was a coping strategy used by both healthy and unhealthy perfectionists in their efforts to

deal with performance slumps. Planning is clearly a strategy that reflects athletes' efforts towards gaining control over the situation. It is likely that planning is a strategy that is either taught or learned in the sporting environment and is therefore used by most athletes. However, in addition to the use of planning, the canonical correlation results (Table 5) indicated that unhealthy perfectionists tended to use behavioural disengagement, vented their emotions and sought social support for emotional reasons to deal with the performance slump. Moreover, the unhealthy perfectionist profile corresponded to an increased tendency to worry about failure and negative social evaluation. Tangney (2002) suggested that unhealthy perfectionists tend to experience shame after perceived failure, so it is possible that when athletes with unhealthy perfectionist orientations encounter a performance slump (thereby failing to reach their performance goals) they become overly concerned about the consequences of this failure and about the public image of imperfection that they are so desperate to avoid (Blatt, 1995). To avoid potential feelings of internal shame, it is possible that athletes with unhealthy perfectionist orientations attempt to disengage from the problem to protect their self-esteem and self-concept, which may explain their apparent use of avoidance and emotion-focused coping strategies. Given that unhealthy perfectionists appear to be susceptible to increased worry (see Table 5), it is possible that they employ emotion-focused coping (such as avoidance, emotional venting, and social support for emotional reasons) because they have not been able to assert control over their slump.

Levels of worry in this study were measured using eight items from the Collegiate Hockey Worry Scale (Dunn, 1999) that were embedded into the MCOPE inventory. Specifically, these eight items were designed to measure the athletes' concerns about

failure as well as their concerns about being negatively socially evaluated. Descriptive statistics (see Table 1) show that this sample of intercollegiate athletes, on average, experienced fairly high levels of worry during their respective performance slumps (M = 3.87; SD = 0.79). This reinforces the view that slumps are a stressful time for many athletes, and that during these times, athletes have tangible concerns about failing to reach their performance goals and being negatively evaluated by others. As the present canonical correlation results indicated, unhealthy perfectionists were more inclined to worry, whereas healthy perfectionists were less inclined to worry (see Table 5). This suggests that the performance slump may be perceived as being more threatening or stressful to unhealthy perfectionists. It is possible that the worry experienced by unhealthy perfectionists stems from their fears of making mistakes and the perceived negative social consequences of these mistakes. In contrast, it is possible that healthy perfectionist athletes experience less worry during the performance slump because they tend to focus on managing the person/environment relationship that is the source of stress. Successfully dealing with the source of stress may in turn decrease the likelihood of worrying.

A number of previous studies have shown that adaptive or healthy perfectionism is typically associated with lower levels of anxiety whereas maladaptive or unhealthy perfectionism is typically associated with increased levels of anxiety (e.g., Ashby & Kottman, 1996; Bieling et al., 2004; Hall et al., 1998; Mobley, Slaney, & Rice, 2005; Rice & Slaney, 2002). The current perfectionism profiles support these past studies as shown by the canonical loadings that corresponds to the worry subscale in Table 5, where healthy perfectionism was associated with a tendency to experience less worry during a

performance slump (canonical loading = -.478). This result may have occurred because healthy perfectionists accept that their performance will not be faultless and may acknowledge that slumps are an inherent—although unwanted—part of sport (cf. Hamachek, 1978). In contrast, the unhealthy perfectionist profile in Table 5 was correlated with a strong positive loading on the worry subscale (canonical loading = .693), indicating that a performance slump is a major source of worry for unhealthy perfectionists who are highly concerned about how their coach will evaluate them during this time. Notably, unhealthy perfectionists were characterized by a high concern over mistakes in this study, so it is not surprising that this perfectionism orientation is related to increased worry during a slump when many mistakes are being made.

As noted previously, the healthy profile of perfectionism presented in Table 5 was associated with a tendency to use problem-focused coping and a decreased tendency to worry. In a recent review of 10 studies that have used the original COPE inventory to assess responses to stress across many different situations, Litman (2006) reported that the active coping and planning subscales of the COPE were always classified as problem-focused strategies. In addition, Litman performed a principal axes factor analysis on the original COPE subscales among a sample of 230 undergraduate students. Litman's analysis produced four 'coping style' factors. The first factor reported by Litman was comprised of planning, active coping, and suppression of competing activities, which all represent self-sufficient problem-focused coping. Litman noted that planning and active coping were significantly related to positive traits such as curiosity and extraversion and also had significant negative correlations with anxiety and depression (as measured by the trait scales of the State Trait Personality Inventory [STPI: Spielberger, 1979]). The

second factor reported by Litman was comprised of disengagement-type coping strategies such as behavioural disengagement, denial, substance use, and mental disengagement. These strategies had significant positive associations with negative affective/emotional states such as anger, anxiety, and depression.

A similar grouping of problem-focused coping strategies among MCOPE subscales was reported by Crocker and Graham (1995) who found that planning, increased effort, and active coping strategies were highly correlated (*r*s ranged from .53 to .69) among a sample of 235 male and female athletes from a variety of different sports. The use of problem-focused coping strategies by athletes is typically viewed by sport psychologists and coaches as an appropriate means by which athletes can change or manage their environment to achieve athletic success. Indeed, Crocker and Graham (1995, p.332) noted:

> Reliance on problem-focused strategies to manage performance challenges is to be expected by competitive athletes. To reach high competitive levels, athletes must use a repertoire of problem-focused coping strategies to actively change or manage a demanding environment in order to achieve success. Most sport psychologists and coaches would agree that disengaging from competitive demands or only engaging in wishful thinking would not be adaptive at high levels of competitive sport.

Evidence supporting the benefits of using problem-focused coping strategies and the ineffectiveness of using avoidance coping strategies to deal with performance pressures was provided by Haney and Long (1995). Haney and Long examined the relationship between foul-shot or penalty-shot performance and coping strategies among 178 female

athletes who competed in the sports of basketball, soccer, or field hockey. Haney and Long reported that engagement coping (i.e., active efforts to manage the stressful event) was positively related to performance whereas disengagement coping was negatively related to performance. These findings seem to support the contention that the use of problem-focused strategies in the pursuit of athletic goals is more favourable than the sole use of emotion-focused or avoidance coping. The current canonical results (see Table 5) suggest that athletes who adopt a healthy perfectionist orientation are inclined to use active problem-focused responses to improve their performance during a performance slump.

Research in psychology outside the sport environment has also found links between the two forms of perfectionism (i.e., healthy and unhealthy) and the use of different coping strategies similar to those observed in this study. For example, Dunkley et al. (2000) assessed perfectionist orientations among 443 university students with subscales from the two multidimensional perfectionism measures developed respectively by Frost et al. (1990) and Hewitt and Flett (1991). Using the terms 'personal standards' perfectionism and 'evaluative concerns' perfectionism to reflect healthy and unhealthy perfectionist orientations, Dunkley et al. found that although personal standards perfectionism (i.e., high scores on personal standards and self-oriented perfectionism subscales) was related to an increase in daily hassles, individuals with this perfectionist orientation were inclined to use active coping strategies (which are similar to problem-focused strategies) to constructively deal with these stressors. Moreover, this perfectionist orientation was not related to avoidant coping, further suggesting that having high personal standards does not necessarily lead to destructive outcomes (cf.

Frost et al., 1990). In contrast, Dunkley and his colleagues found that perfectionists who were high in evaluative concerns perfectionism (i.e., high scores on socially prescribed perfectionism, concern over mistakes, and doubts about actions subscales) typically engaged in less functional avoidant-type coping.

In a later study by Dunkley et al. (2003) with 163 male and female university students, high personal standards scores on the Frost-MPS in conjunction with high concerns over mistakes and high doubts about actions were related to avoidant coping strategies and high levels of self-blame. Given that unhealthy perfectionism was also associated with high levels of worry during the performance slump in this study, it might be speculated that unhealthy perfectionists attempt to protect their self-concept (or self-esteem) by avoiding the stressor or denying its existence. Of course, even though this strategy may alleviate the immediate negative emotional or negative affective response that corresponds with the stressor, the stressor itself (i.e., the performance slump) is still unresolved, potentially prolonging the problems associated with the performance slump.

In a study of 231 undergraduate students, O'Connor and O'Connor (2003) further extended the work of Dunkley et al. (2000, 2003) by showing that individuals who were high in socially prescribed perfectionism (Hewitt & Flett, 1991)—an unhealthy component of perfectionism—had a tendency to use dysfunctional coping strategies such as avoidance, denial, and the use of alcohol in response to daily stressors which, in turn, led to higher levels of distress. These coping strategies were also positively related to heightened levels of hopelessness and psychological distress. It is clear that having high concerns about being negatively evaluated by others can potentially lead to a destructive pattern of coping should the individual's goals not be reached. Accepting one's mistakes

without being concerned that failure is a threat to the self—as is the case with healthy perfectionists (Hamachek, 1978)—may ultimately lower one's distress when faced with stressors and potentially facilitate a problem-focused approach to problem solving.

Another psychological construct that may have theoretical links to both perfectionism and coping in the context of this study is locus of control. Although the current study did not measure athletes' perceived locus of control, this evaluative process is an important appraisal that can influence coping behaviours (Lazarus & Folkman, 1984). Perceived control relates to individuals' beliefs about the reasons for their successes or failures. Individuals with an internal locus of control view themselves as the agent that is primarily responsible for the outcome of their actions (Rotter, 1966). Individuals with an external locus of control, on the other hand, feel as though environmental causes and situational factors are more important in determining the outcome of their actions (Rotter, 1966).

Studies have shown a connection between perfectionism and perceived locus of control, which, in turn, has been linked to specific coping strategy use. For example, Suddarth and Slaney (2001) surveyed 196 male and female undergraduate students on their levels of perfectionism, perceptions of locus of control, psychopathology, and trait anxiety. Two clear perfectionism profiles resembling adaptive and maladaptive perfectionism emerged from a factor analysis. The first factor (unhealthy perfectionism) reflected high concern over mistakes, high parental expectations and criticisms, and high doubts about actions (cf. Rice, Bair, Castro, Cohen, & Hood, 2003; Rice & Mirzadeh, 2000). This factor had significant positive relationships with an external locus of control, trait anxiety, and psychopathology. The second perfectionism factor (healthy

perfectionism) reported by Suddarth and Slaney reflected high personal standards, and was negatively correlated with external locus of control and trait anxiety. In another study, Flett and Hewitt (1998) found that socially prescribed perfectionism was associated with a tendency to make external attributions for both successes and failures in achievement and interpersonal domains. This reflects a learned helplessness orientation which may occur because unhealthy perfectionists do not feel that they can determine whether they are successful due to the fact that they are trying to meet the unfair or unrealistic standards and expectations imposed by others.

Collectively, the results of the aforementioned studies suggest that as unhealthy aspects of perfectionism get stronger, so too do individuals' tendencies to feel that they have limited control over their environment. If unhealthy perfectionists feel that there is little they can do to alleviate a stressor, it is not surprising that problem-focused coping strategies would be abandoned in favour of avoidance- or emotion-focused strategies. Coping theorists are generally in agreement that problem-focused coping strategies are employed when the individual believes that the stressor can be managed or manipulated (e.g., Carver et al., 1989) which, in essence, reflects a high degree of perceived control. In contrast, avoidant- and emotion-focused coping strategies may be more typically employed when the individual does not feel that the stressor can be directly managed (see Anshel & Kaissidis, 1997; Kim & Duda, 2003).

Haney and Long (1995) sampled 178 female athletes aged 16-28 years competing in soccer, field hockey, and basketball, and found that athletes who felt a greater sense of control over the situation and their emotions used fewer disengagement coping strategies in a free-throw/penalty shot situation than those who felt less personal control over the

situation. Similarly, in a study conducted by Ntoumanis and Biddle (2000) with 356 male and female university athletes, appraisals of competitive anxiety were related to the types of coping strategies used in response to a recently experienced sport-related stressor (e.g., performance slumps, unfavourable weather). Athletes who viewed their cognitive and somatic anxiety as facilitative (i.e., believed that anxiety would have a positive impact on performance) were likely to increase their performance efforts and suppress any activities that competed with attaining their competitive goal. In contrast, athletes who viewed their anxiety as debilitative (i.e., anxiety was viewed as negative, unmanageable, and unwanted) used behavioural disengagement and vented their emotions to cope with the stressor—strategies that are not typically constructive in enhancing performance.

Overall, sport psychology research typically demonstrates that when athletes appraise situations (or emotions) negatively or feel that their goals are threatened, they often feel as though they have a limited impact on the outcome of the situation and tend to use avoidance- or emotion-focused coping. Conversely, when athletes view situations (or emotions) in a positive light, they appear to feel more empowered in their abilities to manage the situation and to use more problem-focused coping strategies (Kim & Duda, 2003; Madden at al., 1990; Ntoumanis & Biddle, 2000).

At present, there is a lack of research in sport settings that outlines the relationship between the types of coping strategies that athletes employ as a function of their perfectionist tendencies, and whether or not this relationship is mediated by individuals' situational appraisals (e.g., locus of control). Future studies examining the mediating or moderating effects that perceived locus of control may have on

perfectionists' coping strategies would be of value for practitioners, and may serve as a guide for interventions that are aimed at teaching athletes about appropriate coping responses when faced with performance slumps.

Coping is ultimately designed to assist individuals in managing the specific external or internal demands of a situation (Lazarus & Folkman, 1984). Therefore, successful coping cannot be determined if only the *types* of strategies that athletes use are assessed. Instead, researchers must also examine coping *effectiveness* to determine if athletes felt that their coping efforts successfully dealt with the stressor. In fact, Ntoumanis and Biddle (1998) stated that experimental evidence (e.g., Aldwin & Revenson, 1978; Schönpflug & Battman, 1988) has shown that "[coping] effectiveness significantly [adds] to the prediction of psychological symptoms over and above those explained by coping strategies alone" (p. 775).

In an empirical study that examined coping effectiveness in athletes, Kim and Duda (2003) assessed athletes' short term perceptions of their coping effectiveness in situations where psychological difficulties were experienced (i.e., over arousal, performance worry, frustration). To measure coping effectiveness, athletes responded on a scale from 1 (*not at all)* to 5 (*very effective)* to determine their perceptions of whether or not their coping attempts changed overall mood, helped solve their problem, or did not change the situation at that time. Kim and Duda also examined long term coping effectiveness by assessing psychological well-being including the athletes' levels of satisfaction with their sport, sport enjoyment, and desire to continue participating in their sport. Among the sample of 318 U.S. and 404 Korean athletes, only problem-focused coping (e.g., planning, cognitive restructuring, and emotional calming) was considered to

be effective in both the short- and long-term, whereas avoidance coping was perceived to be effective only in the short term.

Ntoumanis and Biddle (1998) examined coping effectiveness in a sample of 356 university athletes who competed in a variety of sports. Athletes were asked how they responded to a recent important competition when they had experienced sport-related stress. Participants were also asked how effective they felt that their coping efforts had been in dealing with this situation. The researchers also measured athletes' positive and negative affect which was considered to be an indicator of long term coping effectiveness and adjustment (Kim & Duda, 1993). Results showed that increased effort and suppression of competing activities positively predicted positive affect, whereas behavioural disengagement and venting of emotions were related to heightened negative affect and lower positive affect. These results suggest that when athletes felt as though they were playing an active role in managing the situation (i.e., high internal control), they were likely to experience positive affect. In contrast, when athletes felt as though they were not in control or not actively dealing with the situation itself—as is the case when avoidance or emotional venting is employed—athletes were likely to experience negative affect including distress and irritation.

The present study examined athletes' perceptions of the effectiveness of the coping strategies they employed during their respective performance slumps using a 5-point rating scale ranging from 1 (*extremely ineffective)* to 5 (*extremely effective)*. Canonical correlation analysis produced one significant canonical function reflecting a positive relationship between healthy perfectionist orientations and perceived coping effectiveness. The perfectionism variate (see Table 6) had meaningful negative loadings

on concern over mistakes, doubts about actions, and perceived coach pressure—traditionally maladaptive or dysfunctional dimensions of perfectionism—and a moderate positive loading on organization (which is typically associated with healthy functioning: see Bieling et al., 2004; Dunkley, Zuroff, & Blankstein, 2006; Frost et al., 1990; Rice & Lapsley, 2001; Suddarth & Slaney, 2001). Although the canonical loading that corresponded to the personal standards subscale fell slightly below the criterion value of |.30| for interpretation purposes, it was in the positive direction. It might be argued that because holding high personal standards is the defining feature of perfectionism, this pattern of loadings cannot be labelled as healthy perfectionism. Nevertheless, excluding the loading on the personal standards subscale, this pattern of loadings is highly reminiscent of healthy perfectionism profiles that have been reported in the extant literature (see Dunn et al., 2002; Parker, 1997; Rice & Mirzadeh, 2000; Stoeber & Otto, 2006). Overall, the current canonical profile on the perfectionism variate reflects people who have a tendency to be organized, yet experience few evaluative concerns about their performance.

The healthy perfectionism profile shown in Table 6 was associated with an increased tendency to perceive that one's coping efforts were effective. Specifically, this profile of perfectionism corresponded with athletes' tendencies to view the use of planning, active coping, increased effort, disengagement from the stressor, and seeking social support for both emotional and instrumental reasons as effective ways of dealing with performance slumps. Examination of the mean coping effectiveness subscale scores contained in Table 1 also suggest that these coping strategies (excluding disengagement) constitute the most effective strategies. Specifically, for the entire sample, excluding

disengagement, the mean subscale scores for planning, active coping, increased effort, seeking support for emotional and instrumental reasons were the five highest mean rated effectiveness subscales, with mean effectiveness scores ranging from 3.69 to 4.03. All other coping effectiveness ratings were ≤ 3.28.

It seems that no matter which coping strategies were employed, healthy perfectionists tended to view their coping efforts in a positive (or effective) manner. Moreover, the current profiles of healthy perfectionism (see Tables 5 and 6) suggest that healthy perfectionists were less inclined to doubt their actions in sport (from a performance planning perspective). As such, it is possible that they may have had higher levels of self-efficacy with respect to their ability to cope with the stressful demands of the competitive sport environment, or more specifically, to effectively manage the performance slumps. This in turn may explain why they typically viewed their coping efforts as being effective.

Self-efficacy refers to individuals' beliefs that they are capable of successfully achieving a desired outcome (Bandura, 1977), which would also include the belief in their ability to deal with a performance slump. Individuals with high self-efficacy on a specific task strongly believe that they can successfully fulfill the task requirements from a behavioural perspective which suggests that they likely experience a fairly high degree of perceived control. In contrast, individuals with low self-efficacy on a specific task do not believe that they can successfully meet the task requirements and may therefore have a tendency to feel less control over dealing with the task environment (see Weems & Silverman, 2006, for related discussion).

Previous research by LoCicero and Ashby (2000) suggests that individuals'

perfectionist orientations may indeed be linked to self-efficacy levels. In a sample of 199 male and female college students, perfectionism was assessed using the Almost Perfect Scale Revised (APS-R: Slaney & Ashby, 1996). This instrument contains three subscales labelled 'standards' (measuring personal standards), 'order' (measuring organization and preference for order), and 'discrepancy' (measuring levels of distress caused by discrepancies between actual performance and personal standards). Results showed that adaptive perfectionists (as defined by high standards and low discrepancy scores) had significantly higher general self-efficacy and social self-efficacy scores than maladaptive perfectionists (as defined by high standards and high discrepancy scores).

In a discussion paper on the destructive nature of perfectionism, Burns (1980) contended that the higher individuals' standards are, the less likely they are to succeed, which may result in a decrease in self-efficacy. He also emphasized that a central element of unhealthy perfectionism was the tendency to be very self-critical. Burns argued that unhealthy perfectionists become "trapped by non-productive self-critical ruminations that lead to…an unrealistically negative self-image" (p. 38). Although self-efficacy was not measured in the current study, it is possible that healthy perfectionists develop heightened self-efficacy levels, thereby assisting them in their beliefs that they can effectively cope with the stressors and obstacles that they are faced with in their performance/achievement environments. If the healthy perfectionistic volleyball players in this study believed that they could cope, then it seems reasonable to speculate that they were naturally more inclined to believe that the coping strategies they used were effective in dealing with the performance slump.

Not only has a link been established between perfectionism and self-efficacy in

the extant literature, but links between self-efficacy and coping strategies have also been reported. For example, in a study that examined the relationship between causal attributions, self-efficacy levels, and coping responses in school teachers (*N = 316)*, Chwalisz, Altmaier, and Russell (1992) reported that teachers who had high levels of self-efficacy (with respect to their teaching) tended to use problem-focused coping strategies. In contrast, emotion-focused coping was related to low levels of teaching self-efficacy and higher levels of teacher burnout among the sample. Similarly, Haney and Long (1995) found that high levels of self-efficacy and internal control appraisals were associated with better performance on a free throw/penalty shot task among female athletes.

Endler, Speer, Johnson, and Flett (2000) extended the work of Chwalisz et al. (1992) and Haney and Long (1995) by measuring undergraduate students' levels of perceived control during a timed anagram test, and how this appraisal related to the students' use of coping strategies as well as coping effectiveness. Coping effectiveness was measured using performance-based criteria under the assumption that more effective coping would lead to better performance on the anagram test (i.e., more correct responses during the timed test). It was found that higher levels of perceived control were related to lower state anxiety as well as to a greater use of problem-focused coping over emotion-focused coping when compared to individuals with lower perceptions of control. These authors also found that even in situations where there was a low amount of perceived control, problem-focused coping was helpful in correctly completing more anagrams (i.e., was a more effective coping strategy). Although perceived control and self-efficacy beliefs are similar in that they both involve personal appraisals, Bandura (1977) asserted

that self-efficacy may mediate the relationship between control and coping effectiveness as well as people's emotional reactions. It would be of great value for researchers to more closely examine the interrelationships between personality dimensions (such as perfectionism) and coping behaviours and to determine which factors (e.g., locus of control and self-efficacy beliefs) play a role in mediating this relationship.

Chapter 5

General Discussion and Future Directions

Assessing personality dispositions as well as coping responses carries inherent difficulties for researchers. A limitation of a questionnaire-based methodology (as adopted in the present study) includes its reliance on the retrospective recall of participants. An individual's coping strategies can vary as a function of the changing demands and reappraisals of the situation. Consequently, in the present study, recalling an experience after it is over may have resulted in the aggregation of separate coping responses by the athletes that could have been used at different times during the performance slump (cf. Crocker & Graham, 1995; Eklund et al., 1998). Moreover, because the assessment of coping strategy use in this study occurred after the athletes experienced their respective slumps, it is not possible to tell if the levels of worry the athletes experienced were caused by the appraisal of threat during the slump, or by perceptions that the slump was not being effectively dealt with by the coping strategies that were employed. Therefore, it cannot be conclusively stated that healthy perfectionists are less concerned about being in a performance slump. It may be that healthy perfectionists appraise the situation as being equally threatening, but take a problem-focused approach and are confident in their coping abilities and thus do not worry about the consequences of being in a slump. Longitudinal studies that evaluate individuals' appraisals of the situation and their emotions *before* they employ any coping strategies (as well as throughout the coping process) would better separate the individual contributions of appraisal and coping to the athletes' feelings of worry.

Despite the limitations to using retrospective recall in this study, this design is

useful when assessing coping effectiveness. In order for athletes to accurately assess how effective a coping strategy was in dealing with a stressful situation, it would seem necessary for athletes to evaluate the outcomes that resulted from their use of those particular coping strategies. Only after an event is over can athletes add meaning to their experiences and ascertain whether they were able to effectively cope with their stressor. For this reason, assessing coping effectiveness after coping strategies have been employed is a methodological strength of retrospective recall.

Although the MCOPE has been established as an appropriate instrument to measure athletes' coping responses during a performance slump (see Hoar, Kowalski, Gaudreau, & Crocker, 2006), the instrument is not beyond criticism from both psychometric and theoretical perspectives. For example, the two highest intra-subscale correlations in this study (see Appendix E) were between active coping and planning (r = .66) and between the two social support subscales (r = .62). In a study of optimism and coping, Fontaine et al. (1993) performed a principal-components analysis on COPE items and found that items from both social support subscales loaded on the same component, and both active coping and planning items also loaded on another component. It may be that when individuals seek help from their social network, they will often solicit both emotional and instrumental support at the same time, "hence, separating them may create an artificial distinction that does not exist in practice" (Fontaine et al., 1993, p. 272). Empirical support for combining the aforementioned subscales was also provided by Eklund et al. (1998) who used confirmatory factor analysis to examine the latent dimensionality of the MCOPE. Eklund et al. found that the best fitting solution for the MCOPE was obtained when the two social support subscales were collapsed into a single

factor and when the active coping and planning subscales were combined into a single factor. Further research on the latent dimensionality of the MCOPE is clearly warranted.

When developing the subscales for the original COPE inventory, Carver et al. (1989) proposed that along with the conceptual differences between planning and active coping, there may also be a distinction in their execution. Specifically, Carver et al. suggested that planning occurs before any coping attempts have been made in response to the stressor, whereas active coping involves behaviours that are directed at managing the situation. In this study, given that coping was assessed after the athletes had experienced their respective slumps, it may be difficult for athletes to distinguish between these two strategies as they often occur simultaneously. It is possible that individuals who execute a plan (i.e., use active coping) will have initially thought of a plan to carry out, whereas some individuals may intend to carry out certain plans but never actually follow through with them. Consequently, there may be reason to collapse these two subscales into a single subscale when using questionnaire-based assessment (such as the MCOPE) in future studies.

Another psychometric limitation of the MCOPE that needs to be acknowledged in this study pertains to the internal consistency of the subscales. Specifically, internal consistency values (as measured by α) for the denial, suppression of competing activities, wishful thinking, and self-blame subscales were well below the .70 criterion level for acceptable internal consistency and so these subscales (see Table 1) were deleted. Given that these subscales have also demonstrated internal consistency problems in other studies (see Bouffard & Crocker, 1992; Crocker & Graham, 1995; Eklund et al., 1998) it is possible that these subscales are either not salient to individuals dealing with personal

stress, or the items are not all representative of the constructs they purportedly measure. Developing new items or deleting certain subscales from the MCOPE may be warranted.

Using the questionnaire-based approach that was adopted in this study also limits the responses that individuals can give, and the MCOPE subscales may not represent all of the coping strategies employed by the athletes during their performance slumps. For example, mental disengagement, alcohol use, and turning to religion have all been used in previous coping studies but are not included in the MCOPE (see Carver et al., 1989; Fontaine et al., 1993). Therefore, it is impossible to determine if any of the athletes in this study engaged in these coping behaviours. Also, the Coping Inventory for Competitive Sport (CICS) developed by Gaudreau and Blondin (2002) includes distraction-oriented, disengagement-oriented, and task-oriented coping as their primary coping clusters/variables. These dimensions, in turn, have a variety of second-order coping strategies that are not included in the MCOPE such as mental imagery, relaxation, mental distraction, and logical analysis. A series of studies using the CICS has shown that these strategies are frequently used by athletes who are dealing with athletic-performance stressors (see Amiot, Gaudreau, & Blanchard, 2004; Gaudreau & Blondin, 2004a). It may be valuable for future studies to compile the subscales that are salient for athletic coping into one single inventory in order to allow comparisons across samples. Whether this involves the inclusion of MCOPE subscales into the CICS, or vice versa, the sole use of only one instrument limits the degree to which the full constellation of coping strategies that are used by athletes can be assessed. This being said, keeping such an inventory to a manageable length would require the number of items per subscale to be reduced, and the balance between measurement requirements and logistical

manageability to be carefully regulated.

There are clearly issues of concern surrounding the use of the MCOPE as a measure of coping. Nevertheless there are still advantages to using this instrument as part of a domain-specific approach to measuring coping in sport. Like the Sport-MPS-2, the MCOPE is a domain-specific instrument. In other words, it is designed to measure coping in the sport environment. Although this may limit the generalizability of the present results, a domain-specific approach to measurement of constructs may provide information that is more relevant or representative of athletes' cognitions and behaviours within the competitive environment than could be obtained with more global or generic psychological measures. In the case of perfectionism, for example, Dunn et al. (2005) found that perfectionism levels varied for university student-athletes depending upon the situational context that participants considered when rating their perfectionist levels. Specifically, student-athletes reported higher perfectionism levels in sport than in academe and in general life settings, prompting Dunn et al. (2005) to advocate a move towards the domain-specific assessment of perfectionism. In coping literature, it has also been suggested that coping responses will vary in relation to the specific stressor that is encountered (Aldwin, 1994; Lazarus & Folkman, 1984). Therefore, using a version of the MCOPE that was tailored to examine coping responses to *a particular slump* allowed athletes to report the strategies used in response to that single stressful period.

An overview of the benefits and limitations of using domain-specific measures of psychological constructs in sport is provided by Gauvin and Russell (1993). Gauvin and Russell suggested that "there appears to be an almost unquestioning acceptance of the value of sport and exercise-specific tests over tests of generalized psychological traits"

(p. 891), and sport-specific measures limit the generalizability of findings to this specific domain. Nevertheless, these generalizability limitations may be of less concern to researchers or practitioners who are attempting to predict or understand certain behaviours in a specific environment. For example, in the study of anxiety, empirical research has clearly determined that domain-specific measures of trait anxiety (e.g., test anxiety, competitive anxiety, and public speaking anxiety) have more predictive power of state anxiety in these particular domains than global measures of trait anxiety (see Smith et al., 1990). In an applied discipline like sport psychology, coaches and sport psychologists are most interested in determining the athletes' behaviours and psychological tendencies in the sport environment where performance occurs. To this end, the use of sport-specific measures of can be highly beneficial for researchers.

It is also important to consider some of the demographic characteristics of the current sample of female intercollegiate volleyball players with respect to interpreting and generalizing from the results. It is possible that the current results may have been influenced by the gender, competitive level, and age of the sample. For example, a fairly consistent finding in the sport literature is that males and females cope differently (Hoar et al., 2006). Female athletes tend to seek social support, increase their efforts, or use emotion-focused coping strategies when confronted with stressors whereas males more typically use venting and active coping in response to sport-related stressors (see Anshel, Kim, Kim, Chang, & Eom, 2001; Crocker & Graham, 1995; Gaudreau & Blondin, 2002; Kowalski & Crocker, 2001). Gender may also influence perfectionism responses. For example, in their study of perfectionism among male and female intercollegiate athletes, Dunn et al. (2005) reported significant gender differences for self-oriented perfectionism

in sport and other-oriented perfectionism in sport. When considering previously reported gender differences in sport-related coping and perfectionism research, it would not be appropriate for the results of this study to be generalized across gender. Consequently, it would be of value for future research to determine if the multivariate relationship between perfectionism and coping observed in this study exists in samples of male athletes.

The sources of stress that athletes encounter in sport (and associated degree of threat) may also change as a function of competition level. For example, there may be fewer (or less severe) social or performance pressures for athletes who compete recreationally as compared to athletes who compete at varsity or national team levels. As such, coping differences between healthy and unhealthy perfectionist may be less (or more) pronounced depending upon the degree of threat that different competitive environments elicit. Moreover, athletes who compete at the college or university level have likely invested many personal resources into their sport (e.g., time, money, effort, and sacrifices), and it is reasonable to expect that they would experience a higher degree of threat during a performance slump in their athletic performance environment (e.g., for fear of being benched or even cut by coaches) than athletes in recreational sport settings (for whom the social consequences of failure are likely less severe). As such, the results of the current study may only apply to individuals who compete at the college or university level. Consequently, similar studies with athletes competing at different competitive levels are required to further assess the generalizability of the current findings across competitive levels.

Another sample characteristic that could potentially have bearing on the results of

the current study relates to the age of the athletes. The results of the canonical correlation analyses in Tables 5 and 6 yielded non-meaningful loadings for the perceived parental pressure subscale on the perfectionism variates. This finding is consistent with results found by Dunn, Gotwals, et al. (2006) who studied perfectionism and anger in a sample of late adolescent male hockey players (*M* age = 18.27 years, *SD* = .71). Specifically, perceived parental pressure did not have an interpretable loading on a profile of maladaptive perfectionism that was derived using canonical correlation analysis. However, in a different study of perfectionism and anger among a sample of younger male ice hockey players (*M* age = 14.15 years, *SD* = 1.03), Vallance et al. (2006) found that perceived parental pressure did play a meaningful role in defining a profile of maladaptive perfectionism derived from canonical correlation analysis. Dunn, Gotwals, et al. (2006) postulated that the role of parental pressure may decrease as athletes become older because they become more reliant on coaches for performance feedback and less reliant on their parents. Athletes in the present study appear to show similar reliance on coaches and less reliance on parents with respect to defining their adaptive or maladaptive perfectionist orientations. This phenomenon is also documented in the talent development literature in sport (e.g., Côté, 1999) where the role of parents and coaches change as athletes move through stages in the talent development process.

In general, the results of the present study show a clear association between athletes' perfectionistic orientations and (a) the degree to which they worry, (b) the manner in which they attempt to cope, and (c) how effective they perceive their coping attempts to be when dealing with a performance slump. These relationships support theorists who advocate the importance of studying coping preferences as a function of

personality dispositions (e.g., Carver et al, 1989; Gaudreau & Blondin, 2004a). Undoubtedly there is benefit in considering the relationship between perfectionism and coping variables, and there is still much to be learned from studying the effects of this (and other) personality dimensions on an individual's choice of coping strategies. The benefits of such research may have practical implications for athletes and coaches alike.

Coaches who are aware of their athletes' personality orientations can potentially anticipate an individual's response to added stress in the performance environment. Coaches could potentially tailor athlete feedback in order to motivate the athlete to persist in the face of adversity. For example, according to the current results, athletes who show unhealthy perfectionist tendencies appear to be prone to using emotion-focused coping and disengagement strategies during a performance slump. Therefore, coaches can be watchful for these athletes and ensure that they do not disengage in such a way that it is detrimental to the athletes' performance and athletic development. Alternatively, coaches may attempt to show these athletes how to assert control over the demands of the situation, thereby encouraging a more problem-focused approach to coping. Similarly, if coaches have athletes who show healthy perfectionist tendencies, they can be more confident that these athletes are likely to use problem-focused strategies to deal with performance difficulties. This in turn may be reassuring to the coach who may be more inclined to feel that the athlete is doing everything possible to deal with the performance slump.

Overall, results of the present study reinforce the need to consider the role of personality variables in the coping process (Lazarus, 1999). In particular, perfectionism was shown to be differentially related to an individual's tendency to use either problem-

focused strategies, or to use disengagement and emotion-focused strategies. Healthy perfectionist athletes were more likely to engage in problem-focused strategies in their attempts to change their current performance levels and were more inclined to view these coping efforts as being effective in dealing with their performance slump. On the other hand, unhealthy perfectionists were more likely to disengage from the performance environment and to focus on coping with their emotions. In addition, the healthy profile of perfectionism was related to lower levels of worry during a performance slump as well an enhanced feeling that their efforts during this slump were effective in dealing with the situation. Further investigation into the role of athletes' appraisal of control as well as their levels of self-efficacy could prove useful in developing a clearer understanding of the relationship between perfectionism and coping choices in sport.

Chapter 6

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Appendices

Appendix A

Demographic Questionnaire

Please provide the following background information.

Age:_____ years.

Gender (please circle appropriate option): Male / Female

Name of University/College that you currently attend? _____

What is your ***most regular*** playing position on this team? _____

How many years have you competed for this team?_____

Which year of playing eligibility are you currently in?_____

How many years have you been in post-secondary education? _____

General Instructions (Please Read Carefully)

- You will now be asked to complete *four questionnaires* relating to your feelings, attitudes, and behaviours in a sport setting.
- Please read all instructions carefully before completing each questionnaire.
- There is *no right or wrong answer* to any questions, so please respond honestly.
- Make sure that you answer every question on each questionnaire, but do not spend too much time on any one question.
- ***The individual information you provide here will be kept private. No one, other than the research team, will ever see your individual responses to these questionnaires.***

Appendix B

Sport Multidimensional Perfectionism Scale-2

INSTRUCTIONS The purpose of this questionnaire is to identify how players view certain aspects of their competitive experiences in sport. Please help us to more fully understand how players view a variety of their competitive experiences by indicating the extent to which you **agree or disagree** with the following statements. (Circle one response option to the right of each statement). Some of the questions relate to your sport experiences in general, while others relate specifically to experiences on the team that you have most recently played with. **There are no right or wrong answers** so please don't spend too much time on any one statement; simply choose the answer that best describes how you view each statement.

To what extent do you agree or disagree with the following statements.	Strongly Disagree				Strongly Agree
1. If I do not set the highest standards for myself in my sport, I am likely to end up a second-rate player.	SD	D	NA	A	SA
2. Even if I fail slightly in competition, for me, it is as bad as being a complete failure.	SD	D	NA	A	SA
3. I usually feel uncertain as to whether or not my training effectively prepares me for competition.	SD	D	NA	A	SA
4. My parents set very high standards for me in my sport.	SD	D	NA	A	SA
5. On the day of competition I have a routine that I try to follow.	SD	D	NA	A	SA
6. I feel like my coach criticizes me for doing things less than perfectly in competition.	SD	D	NA	A	SA
7. In competition, I never feel like I can quite meet my parents' expectations.	SD	D	NA	A	SA
8. I hate being less than the best at things in my sport.	SD	D	NA	A	SA
9. I have and follow a pre-competitive routine.	SD	D	NA	A	SA
10. If I fail in competition, I feel like a failure as a person.	SD	D	NA	A	SA
11. Only outstanding performance during competition is good enough in my family.	SD	D	NA	A	SA
12. I usually feel unsure about the adequacy of my pre-competition practices.	SD	D	NA	A	SA
13. Only outstanding performance in competition is good enough for my coach.	SD	D	NA	A	SA
14. I rarely feel that my training fully prepares me for competition.	SD	D	NA	A	SA
15. My parents have always had higher expectations for my future in sport than I have.	SD	D	NA	A	SA
16. The fewer mistakes I make in competition, the more people will like me.	SD	D	NA	A	SA
17. I feel like I can never quite meet my coach's expectations.	SD	D	NA	A	SA
18. It is important to me that I be thoroughly competent in everything I do in my sport.	SD	D	NA	A	SA

Please complete the remaining items on the next page. ☞

To what extent do you agree or disagree with the following statements.	Strongly Disagree				Strongly Agree
19. I follow pre-planned steps to prepare myself for competition.	SD	D	NA	A	SA
20. I feel like I am criticized by my parents for doing things less than perfectly in competition.	SD	D	NA	A	SA
21. Prior to competition, I rarely feel satisfied with my training.	SD	D	NA	A	SA
22. I think I expect higher performance and greater results in my daily sport-training than most players.	SD	D	NA	A	SA
23. I feel like I can never quite live up to my coach's standards.	SD	D	NA	A	SA
24. I feel that other players generally accept lower standards for themselves in sport than I do.	SD	D	NA	A	SA
25. I should be upset if I make a mistake in competition.	SD	D	NA	A	SA
26. In competition, I never feel like I can quite live up to my parents' standards.	SD	D	NA	A	SA
27. My coach sets very high standards for me in competition.	SD	D	NA	A	SA
28. I follow a routine to get myself into a good mindset going into competition.	SD	D	NA	A	SA
29. If a team-mate or opponent (who plays a similar position to me) plays better than me during competition, then I feel like I failed to some degree.	SD	D	NA	A	SA
30. My parents expect excellence from me in my sport.	SD	D	NA	A	SA
31. My coach expects excellence from me at all times: both in training and competition.	SD	D	NA	A	SA
32. I rarely feel that I have trained enough in preparation for a competition.	SD	D	NA	A	SA
33. If I do not do well all the time in competition, I feel that people will not respect me as an athlete.	SD	D	NA	A	SA
34. I have extremely high goals for myself in my sport.	SD	D	NA	A	SA
35. I develop plans that dictate how I want to perform during competition.	SD	D	NA	A	SA
36. I feel like my coach never tries to fully understand the mistakes I sometimes make.	SD	D	NA	A	SA
37. I set higher achievement goals than most athletes who play my sport.	SD	D	NA	A	SA
38. I usually have trouble deciding when I have practiced enough heading into a competition.	SD	D	NA	A	SA
39. I feel like my parents never try to fully understand the mistakes I make in competition.	SD	D	NA	A	SA
40. People will probably think less of me if I make mistakes in competition.	SD	D	NA	A	SA

Please complete the remaining items on the next page. ☞

To what extent do you agree or disagree with the following statements.	Strongly Disagree				Strongly Agree
41. My parents want me to be better than all other players who play my sport.	SD	D	NA	A	SA
42. I set plans that highlight the strategies I want to use when I compete.	SD	D	NA	A	SA
43. If I play well but only make one obvious mistake in the entire game, I still feel disappointed with my performance.	SD	D	NA	A	SA

Appendix C

Modified-COPE

- **We would like to know how you responded when you were experiencing a slump in your competitive form. This slump can relate to both training and competitive situations. Performance slumps refer to unexpected declines in your personal performance, where you could not seem to reach your normal performance standards. For some athletes this performance slump may have lasted a few days, whereas for others it may have lasted a few weeks or even longer.**

- **We are also interested in how effective your responses were in managing your performance slump**

Take a minute to think about a time when you experienced a performance slump and reflect upon the types of things you did to try to deal with this situation. Then continue with the following questions using the following instructions

1. Have you ever been in a performance slump similar to what has been described above? Yes No (please circle one)

2. If yes, approximately how long did your performance slump last? _____

<u>Instructions:</u> Following each of the statements on the left there are <u>2</u> response scales. Please indicate, by circling the appropriate number, how <u>often</u> you responded in a particular way during your slump (*Scale 1*) and then how <u>effective</u> this strategy was in managing the situation (*Scale 2*).

	SCALE 1					SCALE 2				
	How often did you respond in this manner?					When you responded in this manner, to what extent did it help you deal with the situation?				
	Never	Seldom	Sometimes	Often	Very Often	Extremely Ineffective	Somewhat Ineffective	Neither Effective or Ineffective	Somewhat Effective	Extremely Effective
1. I asked team-mates what they did or would do	1	2	3	4	5	1	2	3	4	5
2. I talked to someone about how I felt	1	2	3	4	5	1	2	3	4	5
3. I could not deal with my performance and stopped trying	1	2	3	4	5	1	2	3	4	5
4. I blamed myself for the situation	1	2	3	4	5	1	2	3	4	5
5. I made a plan of action	1	2	3	4	5	1	2	3	4	5
6. I dealt only with my performance difficulties, even if I had to forget other things a little	1	2	3	4	5	1	2	3	4	5
7. I worried about what my teammates would think if I let them down	1	2	3	4	5	1	2	3	4	5
8. I felt a lot of upset feelings and I showed those feelings a lot	1	2	3	4	5	1	2	3	4	5
9. I kidded around about my performance	1	2	3	4	5	1	2	3	4	5
10. I tried to increase the quality of my performance	1	2	3	4	5	1	2	3	4	5
11. I daydreamed about a better performance	1	2	3	4	5	1	2	3	4	5

	SCALE 1					SCALE 2				
	How <u>often</u> did you respond in this manner?					When you responded in this manner, to what extent did it <u>help you deal</u> with the situation?				
	Never	Seldom	Sometimes	Often	Very Often	Extremely Ineffective	Somewhat Ineffective	Neither Effective or Ineffective	Somewhat Effective	Extremely Effective
12. I tried real hard to do something about my performance	1	2	3	4	5	1	2	3	4	5
13. I acted as though I was not having performance difficulties	1	2	3	4	5	1	2	3	4	5
14. I worried about making mistakes	1	2	3	4	5	1	2	3	4	5
15. I talked to my coaches or team-mates to find out more about my performance	1	2	3	4	5	1	2	3	4	5
16. I got support and understanding from someone	1	2	3	4	5	1	2	3	4	5
17. I decreased the amount of time and effort I put into my performance	1	2	3	4	5	1	2	3	4	5
18. I criticised or lectured myself	1	2	3	4	5	1	2	3	4	5
19. I thought hard about what steps to take to manage this situation	1	2	3	4	5	1	2	3	4	5
20. I didn't let myself think about anything except my performance	1	2	3	4	5	1	2	3	4	5
21. I worried about other people being disappointed with me	1	2	3	4	5	1	2	3	4	5

	SCALE 1					SCALE 2				
	How often did you respond in this manner?					When you responded in this manner, to what extent did it help you deal with the situation?				
	Never	Seldom	Sometimes	Often	Very Often	Extremely Ineffective	Somewhat Ineffective	Neither Effective or Ineffective	Somewhat Effective	Extremely Effective
22. I got upset and let my feelings out	1	2	3	4	5	1	2	3	4	5
23. I made fun of my performance	1	2	3	4	5	1	2	3	4	5
24. I put more effort into my play	1	2	3	4	5	1	2	3	4	5
25. I had fantasies or wishes about how things might turn out	1	2	3	4	5	1	2	3	4	5
26. I did what had to be done, one step at a time	1	2	3	4	5	1	2	3	4	5
27. I didn't believe I was performing like I was	1	2	3	4	5	1	2	3	4	5
28. I worried about playing poorly	1	2	3	4	5	1	2	3	4	5
29. I tried to get help from someone about what to do	1	2	3	4	5	1	2	3	4	5
30. I talked about my feelings with someone	1	2	3	4	5	1	2	3	4	5
31. I gave up trying to get what I want out of my performance	1	2	3	4	5	1	2	3	4	5
32. I decided I was at fault for my performance	1	2	3	4	5	1	2	3	4	5
33. I thought about how I could best handle my performance	1	2	3	4	5	1	2	3	4	5

	SCALE 1					SCALE 2				
	How <u>often</u> did you respond in this manner?					When you responded in this manner, to what extent did it <u>help you deal</u> with the situation?				
	Never	Seldom	Sometimes	Often	Very Often	Extremely Ineffective	Somewhat Ineffective	Neither Effective or Ineffective	Somewhat Effective	Extremely Effective
34. I stopped doing other things in order to concentrate on my performance	1	2	3	4	5	1	2	3	4	5
35. I worried about how the coach was viewing my performance	1	2	3	4	5	1	2	3	4	5
36. I lost my cool and got upset	1	2	3	4	5	1	2	3	4	5
37. I made jokes about my performance	1	2	3	4	5	1	2	3	4	5
38. I tried to improve my effort	1	2	3	4	5	1	2	3	4	5
39. I wished the situation would go away or somehow be over	1	2	3	4	5	1	2	3	4	5
40. I took direct action to overcome the performance challenge	1	2	3	4	5	1	2	3	4	5
41. I pretended it was not happening or hadn't really happened	1	2	3	4	5	1	2	3	4	5
42. I worried that I would not play as well as I am capable of playing	1	2	3	4	5	1	2	3	4	5
43. I talked to someone who could do something about my performance	1	2	3	4	5	1	2	3	4	5

	SCALE 1					SCALE 2				
	How <u>often</u> did you respond in this manner?					When you responded in this manner, to what extent did it <u>help you deal</u> with the situation?				
	Never	Seldom	Sometimes	Often	Very Often	Extremely Ineffective	Somewhat Ineffective	Neither Effective or Ineffective	Somewhat Effective	Extremely Effective
44. I tried to get help from my coach or team-mates to deal with my feelings	1	2	3	4	5	1	2	3	4	5
45. I stopped trying to perform my best	1	2	3	4	5	1	2	3	4	5
46. I took responsibility for what had happened	1	2	3	4	5	1	2	3	4	5
47. t tried to think about a plan about what to do	1	2	3	4	5	1	2	3	4	5
48. I tried hard not to let other things get in my way of dealing with my performance	1	2	3	4	5	1	2	3	4	5
49. I worried about spectators or friends forming a poor impression of me	1	2	3	4	5	1	2	3	4	5
50. I let negative feelings out	1	2	3	4	5	1	2	3	4	5
51. I laughed about my performance	1	2	3	4	5	1	2	3	4	5
52. I worked harder	1	2	3	4	5	1	2	3	4	5
53. I wished I could change what was happening or had happened	1	2	3	4	5	1	2	3	4	5
54. I tried different things to improve	1	2	3	4	5	1	2	3	4	5

	SCALE 1					SCALE 2				
	How <u>often</u> did you respond in this manner?					When you responded in this manner, to what extent did it <u>help you deal</u> with the situation?				
	Never	Seldom	Sometimes	Often	Very Often	Extremely Ineffective	Somewhat Ineffective	Neither Effective or Ineffective	Somewhat Effective	Extremely Effective
55. I told myself "this performance isn't real"	1	2	3	4	5	1	2	3	4	5
56. I worried about not performing up to the best of my ability	1	2	3	4	5	1	2	3	4	5

Appendix D

Correlations Between Sport-MPS-2 Subscales

	PS	COM	DAA	PCP	PPP	ORG
PS	-	.34**	.12	.20*	.27**	.30**
COM			.39**	.33**	.42**	-.05
DAA				.55**	.21*	-.01
PCP					.14	.18*
PPP						.13
ORG						-

Note. Subscale abbreviations: PS = Personal standards; COM = Concern over mistakes; DAA = Doubts about actions; PCP = Perceived coach pressure; PPP = Perceived parental pressure; ORG = Organization.

* $p < .05$. ** $p < .01$.

Appendix E

Correlations Among and Between MCOPE Frequency and Effectiveness Subscales

	MCOPE Frequency								
	Plan	Effort	Active	Disengage	Humour	Venting	SS-E	SS-I	Worry
MCOPE Frequency									
Planning	-	.44**	.66**	-.08	-.06	.00	.24**	.34**	.07
Increased Effort			.57**	-.40**	-.05	-.10	.16	.25**	.06
Active Coping				-.25**	-.09	-.08	.23**	.38**	-.03
Disengagement					.19*	.29**	.03	-.06	.21*
Humour						.16	.14	.11	.13
Venting							.34**	.13	.29**
SS-E								.62**	.09
SS-I									.10
Worry									-

Note. Subscale abbreviations: PS = Personal standards; COM = Concern over mistakes; DAA = Doubts about actions; PCP = Perceived Coach Pressure; PPP = Perceived Parental Pressure; ORG = Organization; Effort = Increased effort; Active = Active coping; Disengage = Disengagement; Venting = Venting of Emotions; SS-E = Seeking social support for emotional reasons; SS-I = Seeking social support for instrumental reasons.

* $p < .05$. ** $p < .01$.

Appendix E continued.

	MCOPE Effectiveness								
	Plan	Effort	Active	Disengage	Humour	Venting	SS-E	SS-I	Worry
MCOPE Frequency									
Planning	.81**	.26**	.45**	.15	.06	.06	.25**	.29**	.00
Increased Effort	.38**	.53**	.40**	.31**	.03	.03	.19*	.29**	-.07
Active Coping	.61**	.52**	.74**	.24*	.10	-.02	.31**	.42**	.01
Disengagement	-.15	-.38**	-.32**	-.36**	-.19**	-.10	-.08	-.13	-.04
Humour	-.13	-.15	-.02	-.21*	.14	-.18*	.02	-.02	.04
Venting	-.09	-.21*	-.12	-.23**	-.10	-.24**	.11	-.04	-.15
SS-E	.15	.05	.24**	-.03	.01	-.17*	.67*	.32**	26**
SS-I	.20*	.12	.29**	.03	.01	-.14	.46**	.66**	-.06
Worry	.00	-.09	-.03	-.08	.00	-.18*	-.05	-.14	.37**
MCOPE Effectiveness									
Planning	-	.42**	.56**	.19*	.10	.13	.27**	.34**	.01
Increased Effort			.59**	.28**	.11	.07	.22**	.24**	.00
Active Coping				.24**	.18*	-.07	.32**	.38**	-.05
Disengagement					.43**	.37**	.05	.08	.13
Humour						.20*	.10	.10	.12
Venting							-.04	-.05	.39**
SS-E								.58**	-.11
SS-I									.01
Worry									-

Note: Subscale abbreviations: PS = Personal standards; COM = Concern over mistakes; DAA = Doubts about actions; PCP = Perceived coach pressure; PPP = Perceived parental pressure; ORG = Organization; Effort = Increased effort; Active = Active coping; Disengage = Disengagement; Venting = Venting of emotions; SS-E = Seeking social support for emotional reasons; SS-I = Seeking social support for instrumental reasons.

* $p < .05$. ** $p < .01$.